THE LANCET.

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

TELEGRAPHIC ADDRESS—LANCET, LONDON TELEPHONE NUMBER—5356 GERRARD

No. XI. OF VOL. I., 1910.
No. 4515. Vol. CLXXVIII. LONDON, SATURDAY, MARCH 12, 1910. Pp. 160—Price 6d.

ROYAL SOCIETY OF MEDICINE.
SECTIONS: Clinical, Dermatological, Electro-therapeutical, Epidemiological, Laryngological, Medical, Neurological, Obstetrical and Gynæcological, Odontological, Otological, Pathological, Surgical, Therapeutical and Pharmacological, Anæsthetics, Disease in Children. DIARY of MEETINGS on page 766.

22s. net. ("*The Price is phenomenally low.*"—ST. THOS. HOSP. GAZ.)

SPENCER and GASK'S SURGERY.
With 48 Skiagram or Colour Plates. 707 Text-Figures.

"*In every way calculated to satisfy the wishes of those who are studying Surgery. The introduction of 20 coloured plates is a valuable innovation.*"—THE LANCET.

"There is no better text-book on general surgery in the English language. A thoroughly up-to-date standard work."—THE HOSPITAL.

"*A complete text-book on general and regional surgery ..... exact and concise ..... easy to read.*"—ST. THOS. HOSP. GAZ.

"A thoroughly trustworthy guide."—THE MEDICAL TIMES.

London: J. & A. Churchill, 7, Great Marlborough-street.

(See also page 3.)

By FAULDER WHITE, F.R.C.S.

INFECTED EARS (Intrameatal Treatment). 5s.

"We strongly commend this small work."—THE MEDICAL TIMES.

"A line of treatment which is attended with so little risk and affords such satisfactory results is very welcome."—MIDLAND MEDICAL JOURNAL.

Celtic Press, 43, Chancery-lane.

THE FOOD FACTOR in DISEASE. Including the Pathology and Treatment of Bilious Attacks, the Paroxysmal Neuroses (Migraine, Asthma, Angina Pectoris, &c.), Gout, High Blood-pressure, &c. By FRANCIS HARE, M.D., Consulting Physician, Brisbane Hospital. For abstract see THE LANCET review—Feb. 17th, 1906, pp. 453 to 455.—Longmans, Green & Co. In two volumes. Price 30s. net.

Price 2s. 6d. net.

MOUTH BREATHING and its Relation to Diseases of the Throat, Nose, Ear and Accessory Cavities.

By MAYO COLLIER, M.S.Lond., F.R.C.S.Eng., Senior Surgeon to the North-West London Hospital; late President of the British Laryngological, Rhinological and Otological Association.

By the same Author. Price 2s. net.
CHRONIC PROGRESSIVE DEAFNESS: Its Causation and Treatment.

London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

CLIMATOTHERAPY & BALNEOTHERAPY.
Being a Third Edition of "The Mineral Waters and Health Resorts of Europe," much Enlarged in respect to Medical Climatology. By Sir HERMANN WEBER, M.D., F.R.C.P., and F. PARKES WEBER, M.D., F.R.C.P., Physician to the German Hospital, London, and to the Mount Vernon Hospital for Diseases of the Chest, Hampstead. Edited by F. PARKES WEBER. Price 15s. net.
London: Smith, Elder & Co., 15, Waterloo-place.

DISEASES OF THE SKIN.

By Sir MALCOLM MORRIS, K.C.V.O.

New Edition, with many New Coloured and Black-and-White Plates.

13th Thousand. 10s. 6d.

"The book fully deserves the favour it has met with in the past."—BRITISH MEDICAL JOURNAL.

"Fully representative of the best dermatological teaching of the present day."—THE LANCET.

Cassell & Co., Ltd., La Belle Sauvage, London, E.C.

THIRD EDITION. Entirely Rewritten. Demy 8vo, price 5s. net; by post 5s. 4d.

INDIGESTION: The Diagnosis and TREATMENT of the FUNCTIONAL DERANGEMENTS of the STOMACH.

By GEORGE HERSCHELL, M.D.Lond.

"One of the best guides in the English language, and may, we think, be fairly regarded as a standard text-book. ..... We can conceive of no more valuable book to place in the hands of a medical man commencing practice."—MEDICAL PRESS AND CIRCULAR.

London: H. J. Glaisher, 55 & 57, Wigmore-street, W.

BY Sir WILLIAM BENNETT, K.C.V.O., F.R.C.S.

Just Published. Crown 8vo. 5s. net.
INJURIES AND DISEASES OF THE KNEE JOINT. With 34 Illustrations. Nisbet & Co.

Also:—8vo. 6s. FOURTH EDITION.
MASSAGE AND MOVEMENTS IN RECENT FRACTURES; Sprains and their Consequences; Rigidity of the Spine and the Management of Stiff Joints. With 23 Illustrations.
Longmans, Green & Co.

TWO OF SAUNDERS' IMPORTANT BOOKS.

KELLY & CULLEN ON UTERINE MYOMATA.
KELLY & NOBLE'S GYNECOLOGY AND ABDOMINAL SURGERY.

See Saunders' Advertisement on Page 5.

INEBRIETY: its Medical Treatment.
Being the
THIRD ANNUAL REPORT of the NORWOOD SANATORIUM.
By FRANCIS HARE, M.D., Medical Superintendent.
Post free to members of Medical Profession on application to Secretary, The Mansion, Beckenham Park.

Royal 8vo. Printed wrapper. Price 1s. net.

ADENOIDS, NOCTURNAL ENURESIS, and the THYROID GLAND.
By LEONARD WILLIAMS, M.D., M.R.C.P.
London: Bale, Sons & Danielsson, Ltd., 83-89, Great Titchfield St., W.

ISOLATION RENDERED UNNECESSARY.

SCARLET FEVER. A PLEA for the HOME TREATMENT and PREVENTION.

By ROBERT MILNE, M.D. Aber., Medical Officer of Dr. Barnardo's Homes and Hospitals.

Now Ready. In Cloth. Demy 8vo. 2s. post free.

THE MEDICAL TIMES.—"We strongly advise our readers to study this book and to act on the teaching therein contained. It is a practical book which appeals to every medical man."

James Nisbet & Co., Ltd., 22, Berners Street, London, W.

NOW READY. Price 3s. net; by post, 3s. 3d.

ELECTRICAL TREATMENT for GENERAL PRACTICE. 150 pages, illustrated. A manual which will enable the general practitioner to easily acquire the knowledge necessary to include this work in his practice.
Published by F. Davidson & Co., 29, Gt. Portland-street, London, W.

BY H. BELLAMY GARDNER, M.R.C.S.Eng.
SURGICAL ANÆSTHESIA.
"It is easy to read. ..... A capital exposition of the principles and practice of anæsthesia."—THE LANCET.
Pp. 240. Messrs. Baillière, Tindall & Cox. Price 5s.

By OSCAR JENNINGS, M.D (Paris), M.R.C.S.Eng.

THE MORPHIA HABIT.

"Pleasantly written. ..... The outcome of considerable experience with such cases."—BRITISH MEDICAL JOURNAL.
"We cordially commend this book."—MEDICAL PRESS AND CIRCULAR.
"The book is a most interesting one."—JOURNAL R.A.M.C.
"A work of this kind deserves the highest praise."—MEDICAL OFFICER.
"Must necessarily command the interest and respect of the profession."—THE HOSPITAL. Baillière, Tindall & Cox.

SECOND EDITION, with Illustrations, royal 8vo, 10s. 6d.

TREATMENT of LATERAL CURVATURE of the SPINE. By BERNARD ROTH, F.R.C.S.
"In speaking of the first edition we expressed the hope that this book would do something to check the unscientific and often disastrous treatment of lateral curvature of the spine by spinal supports and prolonged rest, and this new edition is even better calculated to show the good results which may be obtained in lateral curvature by posture and exercise."—THE LANCET.
"There can be no doubt that good work has been done by the author by his strong advocacy of the more rational method of treating lateral curvature of the spine by exercises."—BRITISH MEDICAL JOURNAL.
London: H. K. Lewis, 136, Gower-street, W.C.

THE LANCET is registered as a Newspaper. All rights reserved.

THE MOST POWERFUL DISINFECTANT
on the market both Chemically and as a Germicide is

"COFECTANT" (SURGICAL).

Samples and full particulars sent to any medical man on application to the

Sole Proprietors and Manufacturers—

Edward Cook & Co., Ltd. (The Soap and Disinfectant Specialists), **Bow, London, E.**

"The Food Par Excellence For a Tired Stomach."

Valentine's Meat-Juice

IN PNEUMONIA, PHTHISIS AND INFLUENZA.

Where a powerful and energetic nourishment is required in a concentrated, rapidly assimilated form, easily administered and readily tolerated, when other forms of food fail, Valentine's Meat-Juice is employed by well known practitioners throughout the world.

Prof. Dr. M. Litten, *Lecturer on Internal Medicine, University of Berlin, and Director of the City Hospital, Berlin, Germany.* "I have employed Valentine's Meat-Juice with patients suffering from Tuberculosis and observed excellent results from its use. I have also used it with good results in the treatment of patients with Anaemia, as well as those convalescent from acute diseases."

O. B. Douglas, M. D., *Ex-President Medical Society, County of New York; Professor Diseases of Nose and Throat; New York Post-Graduate Medical School and Hospital.* "I have been ill with Influenza and used Valentine's Meat-Juice when nothing else seemed to be relished. I consider this an assurance of my confidence in it."

Physicians are invited to send for brochures containing clinical reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
RICHMOND, VIRGINIA, U. S. A.

RONCEGNO

Natural ARSENICAL Iron Water.

The Richest Known of all Arsenious Springs.

Highly recommended by the Medical Profession as most efficacious in the treatment of **Anæmia, Ailments peculiar to Females, Skin Affections, Nervousness, Rachitis, Chronic Rheumatism, and Malaria. A Powerful Tonic in General Convalescence.**

THE LANCET, Feb. 20th, 1909, says:—"The water of Roncegno is distinguished from the waters of its class by containing a remarkable quantity of arsenic. We have not examined a natural mineral water, at all events, containing so much arsenic."

SAMPLES sent gratis and carriage paid to MEMBERS of the MEDICAL PROFESSION on application to

RICHARD DAVIS, 20, Maddox Street, Regent Street (SOLE AGENT).

RONCEGNO WATER contains, according to THE LANCET'S Analysis, **half-grain of Arsenious Acid and 11 grains of Iron per pint.**

RONCEGNO Water affords the BEST and MOST EFFICACIOUS METHOD of ADMINISTERING ARSENIC and IRON.

1s. per Bottle. ***1s. per Bottle.***

THE LANCET.

No. 4515. Vol. CLXXVIII. LONDON, SATURDAY, MARCH 12, 1910. Pp. 160.

CONTENTS.

The whole of the literary matter in THE LANCET is copyright.

THE LUMLEIAN LECTURES on Angina Pectoris. Delivered before the Royal College of Physicians of London by WILLIAM OSLER, M.D., F.R.S., Regius Professor of Medicine in the University of Oxford.—Lecture I. (delivered on March 10th) 697

A PRESIDENTIAL ADDRESS on the Medical Examiner in Life Assurance. Delivered at the Annual Meeting of the Life Assurance Medical Officers' Association, Feb. 9th, 1910, by HECTOR W. G. MACKENZIE, M. D. Cantab., F.R.C.P.Lond., Physician to St. Thomas's Hospital, London, and to the Hospital for Consumption, Brompton 702

ORIGINAL ARTICLES.

The Clinical Significance of Gastric Hypersecretion and its Connexion with Latent Disease of the Appendix. By W. SOLTAU FENWICK, M.D. Lond. and Strasburg 706

Appendicular Gastralgia: or the Appendix as a Cause of Gastric Symptoms. By HERBERT J. PATERSON, M.B., B.C.Cantab., F.R.C.S.Eng., Assistant Surgeon to the London Temperance Hospital, &c. 708

Some of the Commoner Forms of Chronic Rheumatism (Fibrositis) and their Treatment. By ARTHUR P. LUFF, M.D., B.Sc.Lond., F.R.C.P. Lond., Physician to St. Mary's Hospital.—(*Illustrated*) 712

A Case of Enteric Intussusception with Henoch's Purpura; Excision; Intestinal Drainage followed by End-to-end Union; Recovery. By F. W. COLLINSON, M. D. Edin., M.R.C.P.Lond., F.R.C.S.Ed., Honorary Medical Officer to the Preston Royal Infirmary 716

The Treatment of Vomiting. By J. SNOWMAN, M.D.Brux., M.R.C.P.Lond. 717

The Reform of Poor-law Medical Relief. By C. THACKRAY PARSONS, M.D.Lond., Medical Superintendent, Fulham Infirmary 741

Maison Barlier (Rue de l'Abbaye, Paris). By H. MACNAUGHTON-JONES, M.D.—(*Illustrated*) ... 746

MEDICAL SOCIETIES.

ROYAL SOCIETY OF MEDICINE: MEDICAL SECTION: — Pericarditis with Effusion 719

SECTION FOR STUDY OF DISEASE IN CHILDREN:—Exhibition of Cases 721

MEDICAL SOCIETY OF LONDON: The Cerebellum and its Affections 722

ROYAL ACADEMY OF MEDICINE IN IRELAND: Types of Imbecility.—Pseudo-Hypertrophic Muscular Paralysis.—Sciatica.—Leukæmia .. 723

ÆSCULAPIAN SOCIETY: Pituitary Extract and Some of its Effects 724

NORTHERN ASSOCIATION OF MEDICAL WOMEN: The Medical Inspection of School Children 724

REVIEWS AND NOTICES OF BOOKS.

The Hygiene of School Life. By Ralph H. Crowley, M.D. Lond., M.R.C.P.Lond. 725

Lehrbuch der Nervenkrankheiten (Text-book of Nervous Diseases). Edited by Dr. Hans Curschmann of Mainz 726

Diseases of the Stomach. By S. H. Habershon, M.A., M.D. Cantab., F.R.C.P.Lond. 726

Serums, Vaccines, and Toxins in Treatment and Diagnosis. By Wm. Cecil Bosanquet, M.A., M.D.Oxon., F.R.C.P. Lond., and John W. H. Eyre, M.D., M.S Dunelm, F.R.S.Ed. Second Edition 727

Scientific and Biological Researches in the North Atlantic. By R. Norris Wolfenden, M.D. Cantab. 727

Materia Medica, Pharmacy, Pharmacology, and Therapeutics. By W. Hale White, M.D.Lond. Eleventh Edition 728

First Aid to the Injured and Sick. By F. J. Warwick, M.B.Cantab., M.R.C.S.Eng., L.S.A., and A. C. Tunstall, M.D. Edin., F.R.C.S. Edin. Sixth Edition 728

Some Common Remedies and Their Use in Practice. By Eustace Smith, M.D.Lond. ... 728

Spiritualism and Insanity. Religion and Insanity. By Charles Williams, L.R.C.P., L.R.C.S.Edin. 728

LEADING ARTICLES.

THE COMPULSORY NOTIFICATION OF EPIZOOTIC DISEASES 732

THE CAUSE OF BERI-BERI 733

THE DIAGNOSIS OF TUBERCULOSIS BY MEANS OF THE DEVIATION OF COMPLEMENT.. 734

ANNOTATIONS.

Medicine, Literature, and Bulwer-Lytton 735

King Edward's Hospital Fund for London 736

Purpura Hæmorrhagica due to Benzol Poisoning 736

The Month of February 736

Alcohol as a Food 737

Enzymes in the Laundry 737

The Tropical Diseases Research Fund 738

Cerebral Abscess and Bronchiectasis 738

Electrolytic Disinfectant 739

Henoch's Purpura Associated with Intussusception 739

LOOKING BACK.

(From THE LANCET, Saturday, March 10th, 1832.)

Foreign Varieties; Bitter Taste of Quinine; Sinapisms 740

VITAL STATISTICS:

Health of English Towns 747

Health of Scotch Towns 747

Health of Irish Towns 747

Analysis of Sickness and Mortality Statistics in London during January, 1910 748

Vital Statistics of London during January, 1910 749

SPECIAL ARTICLES.

Royal College of Physicians of London: A Debate on Systematic Instruction in Psychiatry 729

The British Medical Benevolent Fund 731

The Recent Malaria Conference in Simla 745

The Services: Hygiene in the French Navy; British Red Cross Society 749

The Public Health and the Paris Floods 754

Birmingham: The General Hospital; Birmingham and Midland Counties Sanatorium; Natural History Museum; Medical Inspection of Schools at Walsall 756

Scotland: The State Registration of Nurses in Scotland; Edinburgh Town Council and Pulmonary Tuberculosis; the Glasgow Hospital Sunday Fund; the Dangers of Geligníte; Sicilaw Sanatorium; the New Charter of the Montrose Asylum Board 756

Ireland: Dairies, Cowsheds, and Milkshops Order; Children's Hospital, Temple-st., Dublin; The Health of Belfast; Lady Dudley's Nursing Scheme ... 757

Berlin: The Relations between Human and Bovine Tuberculosis; Medical Society Demonstrations 758

Notes from India: Small-pox in Calcutta; Spectacles for Troops Serving in India; the Prevention of Malaria in Bombay 759

CORRESPONDENCE.

The Prevalence of Tuberculosis among School Children (Dr. R. W. Philip) 751

Soldiers' Teeth (Mr. Morton Smale) 752

The Early Diagnosis of Cancer of the Stomach (Dr. W. Gordon) 752

The English "Member" and the Irish and Scotch Licentiate (Dr. J. C. McWalter) ... 753

Enteric Fever in Infancy (Dr. James Fletcher) 754

Adams v. Pomeroy (Dr. Martha Adams) 754

Sour Milk 754

Wanted, a Home (Mr. Arthur B. Rogers) 765

OBITUARY.

Thos. Webster, L.R.C.P.Lond., M.R.C.S.Eng. 759

Deaths of Eminent Foreign Medical Men 759

MEDICAL NEWS.

Notification of Cerebro-spinal Fever 702

The International Congress on School Hygiene 705

Caxton Convalescent Home, Limpsfield, Surrey 731

Central Midwives Board 731

Foreign University Intelligence 740

Munificent Gift to the University of Liverpool 740

Pass-list of the University of Cambridge 760

London School of Tropical Medicine 760

Another School Clinic Proposed for London 760

Chelsea Clinical Society 760

Colonial Medical Appointments 760

The Irish Medical Schools and Graduates' Association 760

Donations and Bequests 760

The Health of Ilfracombe 760

Society of Apothecaries of London 760

The Teaching of Partially Deaf Children 760

The Brown Dog 761

Literary Intelligence 761

Honour for a Preston Medical Man 761

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics 761

House of Commons: The Investigation of Tropical Diseases 762

Books, &c., received 763

Appointments 764

Vacancies 764

Births, Marriages, and Deaths 764

Notes, Short Comments, and Answers to Correspondents .. 765

Medical Diary 766

Acknowledgments of Communications received 768

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX

MEDICAL AND OTHER BOOKS AND PUBLICATIONS

COVER

PAGE

BAILLIERE, TINDALL & COX:—
Gardner .... Surgical Anæsthesia.... 1
Jennings .... The Morphia Habit 1
Mayo Collier Mouth Breathing 1
" Chronic Progressive Deafness 1

BALE, SONS & DANIELSSON:—
Williams.... Adenoids, &c. .....

CASSELL & CO.:—
Morris,
Sir M. .... Diseases of the Skin.... 1

CELTIC PRESS:—
White ..... Infected Ears 1

CHURCHILL, J. & A.:—
Spencer &
Gask ..... Practice of Surgery 1

GLAISHER:—
Herschell .. Indigestion 1

LEWIS:—
Roth..... Curvature of the Spine 1

LONGMANS, GREEN & CO.:—
Bennett,
Sir W. .... Massage & Movements in Recent Fractures .. 1
Hare ..... Food Factor in Disease 1

NISBET & CO.:—
Bennett, Sir
Wm. ..... Injuries, &c., of the Knee-joint 1
Milne ..... Scarlet Fever 1

SAUNDERS COMPANY:—
Two of Saunders' Important Books .. 1

PAGE

SMITH, ELDER & CO.:—
Weber &
Weber .... Climatotherapy and Balneotherapy..... 1

MEDICAL LIBRARIES, &c.:—
Norwood Sanatorium—
Hare: Inebriety 1

ASH, SONS & CO.:—
Hewitt ..... Nitrous Oxide, &c. 10

BAILLIERE, TINDALL & COX:—
Andrew .... Age Incidence, &c..... 9
Bidwell .... Intestinal Surgery..... 11
Blumfeld.... Anæsthetics 9
Clarke ..... Congenital Dislocation of the Hip 9
Eccles ..... Hernia, &c. 9
" ..... Imperfectly Descended Testis 9
Giles ..... Gynæcological Diagnosis 9
Leedham-Green .... Gonorrhœa in the Male 9
.... Sterilisation of Hands.. 9
Lindsay .. Diseases of the Lungs .. 9
McKisack .. Dictionary of Medical Diagnosis..... 9
Mummery .. The Sigmoidoscope 9
Owen..... Cleft Palate, &c..... 9
Thorne..... Nauheim Treatment of Heart Disease 9
Vincent .... Nutrition of the Infant 9

BALE, SONS & DANIELSSON:—
Burnet..... Campaign Against Microbes 10
Seccombe .. Bacteriologist's Aid to Memory 10

CHURCHILL, J. & A.:—
Alcock &
Ellison .... Experimental Physiology 3
Bailey &
Miller .... Embryology..... 3

PAGE

CHURCHILL—(Continued).
Barker..... Anatomical Terminology 3
Bowlby &
Andrews .. Surgical Pathology 3
Charteris.... Practice of Medicine .. 5
Clouston .... Mental Diseases 3
Coles ..... The Blood 3
" ..... Bacteriology, &c. 3
Crippe ..... Ovariotomy, &c. 11
Dallinger .. Carpenter's Microscope and its Revelations .. 3
Dana..... Nervous Diseases 3
Edwards .... Diseases of Rectum, &c. 3
Lewis ..... Medical Vade-Mecum in German and English .. 3
MacFadyen .. The Cell as the Unit of Life 3
Marshall.... Manual of Prescribing 3
" .... Materia Medica 3
Morris ..... Anatomy 3
Thorne,
Bezly .... Schott Nauheim Treatment, &c., of the Heart 11
Wallis ..... Dental Extractions 3
West..... How to Examine the Chest 3

C. V. MOSBY MEDICAL BOOK & PUBLISHING CO.:—
Ochsner &
Thompson. Surgery and Pathology of Thyroid Glands 6

FROWDE AND HODDER & STOUGHTON:—
Lockwood .. Aseptic Surgery..... 11
" .. Clinical Lectures and Addresses in Surgery.. 11

LEWIS:—
Lewers..... Diseases of Women 11
" ..... Cancer of the Uterus .. 11

MACMILLAN & CO.:—
Allbutt, Sir C. Composition of Scientific Papers 7
Brunton,
Sir L. .... Papers on Circulation .. 7

PAGE

MACMILLAN—(Continued).
Brunton,
Sir L. .... Disorders of Digestion.. 7
" .... Assimilation, &c. 7
" .... Action of Medicines 7
Hewitt .... Anæsthetics and their Administration 7
Hunter..... Severest Anæmias 7
Lockwood .. Appendicitis..... 11
New System of Medicine..... 7

MURRAY:—
Boyce, Sir R. Health, Progress, &c. .. 10

REBMAN:—
Barnett .... Accidental Injuries to Workmen 8
Kelley ..... Surgical Diseases of Children 8
Moure ..... Diseases of Pharynx, &c. 8
The Maniac 8

SAUNDERS COMPANY:—
Kelly &
Cullen .... Myomata of the Uterus 5
Kelly &
Noble .... Gynecology and Abdominal Surgery 5

SMITH, ELDER & CO.:—
Tirard ..... Albuminuria, &c. 10

WRIGHT & SONS (BRISTOL):—
Medical Annual, 1910 10

MEDICAL LIBRARIES, &c.:—
Baker—Book Bargains..... 11
Beasley & Kelsey—Stammering 11
Behnke—Stammering 11
Hygienic Handbook 11
Lewis's Medical Circulating Library.. 8
Matthews Bros—
Wood: Application of Trusses.... 11
Seymour—How to Speak Effectively.. 11
Squire's Companion 39

OFFICIAL AND GENERAL ANNOUNCEMENTS

COVER

HEALTH RESORTS, BATHS, &c.:—
Honcegno 11

OFFICIAL NOTICES:—
Royal Society of Medicine..... 1

APPOINTMENTS VACANT:—
Bath Royal United Hospital..... 75
Bristol General Hospital 76
Cancer Hospital, Fulham-road..... 76
Central London Ophthalmic Hospital, Gray's Inn-road 73
Cheltenham General Hospital 75
Cornelia Hospital, Poole 76
Denbighshire Infirmary, Denbigh 75
Dreadnought Hospital, Greenwich .. 75
Evelina Hospital for Sick Children .. 76
Homes for Little Boys, Farningham.. 76
Huntingdon County Hospital 76
Jenny Lind Infirmary for Children, Norwich 74
Kettering and District General Hos... 76
Leeds General Infirmary..... 75
London (Royal Free Hospital) School of Medicine for Women 75
Macclesfield General Infirmary 75
Manchester Royal Infirmary 75
Metropolitan Hospital, Kingsland-road 73
Middlesex Hospital 74
Mount Vernon Hospital for Consumption 76
North Riding Infirmary, Middlesbrough 74
Nottingham General Dispensary 76
Nottingham General Hospital..... 73
Parish of Poplar Borough 74
Prince of Wales's General Hospital, Tottenham..... 75
Queen's Hospital, Birmingham 74
Queen's Hospital for Children, Bethnal Green 74
Reeth Union and Rural District Council 74
Rotherham Hospital and Dispensary 73
Royal Albert Hospital, Devonport.... 75
Royal Buckinghamshire Hospital, Aylesbury 75
Royal Hospital for Diseases of the Chest, City-road 75
Royal Infirmary, Hull..... 74
Royal Infirmary, Sheffield..... 74
Royal Institute of Public Health 76
Royal Mineral Water Hospital, Bath 76
Royal National Hospital for Consumption, Ventnor 75
Royal Naval Medical Service 73
Royal Southern Hospital, Liverpool 75
Royal Victoria Eye and Ear Hospital, Dublin 75
Salford Union Infirmary..... 74
Salop Infirmary, Shrewsbury..... 75, 75
Sheffield Royal Hospital 76
Staffordshire General Infirmary, Stafford 76

APPOINTMENTS—(Continued).
Sussex County Hospital, Brighton ... 76
Torbay Hospital, Torquay..... 74
University of Sheffield 74
Vieille Montagne Zinc Co..... 76
Walsall and District Hospital..... 76
Warneford, Leamington, and South Warwickshire General Hospital 75

ASSISTANCIES, MEDICAL 82

ASYLUMS, HOMES, &c.:—
Applegarth Sanatorium, Northallerton 66
Ashbrook Hall, St. Leonards-on-Sea.. 66
Ashwood House, Kingswinford 67
Barnsley Hall, Bromsgrove 68
Barnwood House Hospital..... 68
Benson, Ashover 75
Bishopstone House, Bedford 67
Brunton House, Lancaster 73
Buntingford House Retreat, Buntingford 69
Camberwell House, Peckham-road.... 67
C., Dover-street 73
Cheadle Royal 67
Clarence Lodge, Clapham-park..... 67
Coppice, The, Nottingham 68
Court Hall, Kenton 68
Crooksbury Sanatorium, Surrey 70
Dalrymple House, Rickmansworth .. 72
David Lewis Colony, Alderley Edge .. 72
Ealyll Retreat, Cockermouth 70
Grove House, Church Stretton 68
Grove, The, Catton, Norwich 68
Haslemere Nursing Home 73
Haydock Lodge, Newton-le-Willows.. 69
Heigham Hall, Norwich 67
Home for Epileptics, Maghull 72
Home Sanatorium, West Southbourne 71
Hon. Sec., Chancery Lane 73
Invernith Lodge Retreat, Colinsburgh 70
Kingsdown House, Box 67
Lady Supt., Clapham Park 75
Lady Superintendent, Streatham 75
Leigh House, Warwick..... 66
London Fever Hospital, Islington 66
London Open-Air Sanatorium, Wokingham 71
Malling-place, Kent 68
Melbourne House, Leicester 72
Middleton Hall, Co. Durham..... 67
Miss Gotte, Finchley 75
Moat House, Tamworth 68
Newlands House, Tooting 67
Newmains Retreat, Lancashire 64
Nordrach-on-Dee, Banchory 71
Nordrach-upon-Mendip Sanatorium .. 71
Northlands Retreat, Wandsworth 72
Northumberland House, Finsbury-pk. 69
Northwoods House, Winterbourne.... 69
Norwood Sanatorium 69
No. 116, L.O., Strand..... 75
No. 487, L.O., Strand..... 75
No. 578, L.O., Strand..... 75
Osea Island, Heybridge 72
Otto House, West Kensington 67
Painswick Sanatorium..... 68
Peckham House, Peckham-road 69
Plas-yn-Dinas, Merionethshire..... 70

ASYLUMS—(Continued).
Plympton House, South Devon 68
Portsmouth Corporation Mental Hos. 68
St. Andrew's Hospital, Northampton 64
St. Luke's Hospital, E.C. 67
Sanatorium Clavadel 71
Silver Birches, Epsom 66
Sister, Bexhill-on-Sea 75
Springfield House Private Asylum, Bedford 68
Stocker, Craven-street 75
Stretton House Church Stretton..... 68
Sunnydene, Grove Park 75
Supt., Wanstead 75
The Grange, Rotherham 67
The Haven, Finchley 75
The Retreat, York 67
Tower House, Leicester 72
Vale of Clwyd Sanatorium..... 70
Warneford Asylum, Oxford 67
Whitmead Hill Sanatorium, Farnham 66
Wonford House, Exeter 68
Wye House, Buxton 68
Yarrow Convalescent Home, Broadstairs..... 70

FINANCIAL, &c.:—
Birkbeck Bank..... 65
Equitable Reversionary Interest Soc. 64

HEALTH RESORTS, BATHS, &c.:—
Aberystwyth, the Biarritz of Wales .. 65
Leysin, Switzerland 71
Smedley's, Matlock 65
The Harrogate Hydropathic..... 66
Wiesbaden 72

HOTELS:—
White Hart Hotel, Margate 75

HOUSE & ESTATE AGENTS .. 79 81

LIFE & FIRE ASSURANCES:—
General Life Assurance Co. 63
National Provident Institution 63
Prudential 64
Royal Exchange Assurance 63

MASSAGE:—
H. M. S., Regent's Park 68

MEDICAL ACCOUNTANTS, &c.:—
Turner 81

MEDICAL AGENTS:—
Blundell & Rigby 76
Fieldhall, Limited 80
Manchester Medical Agency 79
Manchester Medical Association..... 79
Medical Agency 81
Needes, Herbert 76
Needes, J. C. 79
Peacock & Hadley 76
Reynolds & Branson 80
Scholastic, Clerical, &c., Assoc. 77
Turner 78

MEDICAL SCHOOLS—
(LONDON.)
West London Post-Graduate College 61

NURSING INSTITUTES:—
Army and Navy Male Nurses' Co-operation 68
General Nursing Association..... 65
Hospital for Sick Children, Great Ormond-street 66
Leeds Trained Nurses' Institution.... 65
London Nurses' Association 64
Male Nurses' Association 65
Male Nurses' Co-operation 65
Mental Nurses' Co-operation..... 66
Metropolitan Temperance Association 65
National Hos. Male Nurses' Assoc..... 66
Nurses' Co-operation, Portland-place 65
St. Bartholomew's Hos. Nurses' Inst. 66
St. John's House 65
St. Luke's Hospital, E.C..... 65
Temperance Male and Female Nurses' Co-operation 65
Temperance Male Nurses' Co-operation 65

OFFICIAL NOTICES:—
Brompton Hospital for Consumption 62
City of London Lying-in Hospital ... 61
Edinburgh Post-Graduate Vacation Course 61
London Hospital Medical College 61
London (Royal Free Hospital) School of Medicine for Women 61
London School of Clinical Medicine.. 61
Medical Graduates' College, &c..... 61
Medical Sickness and Accident Society 62
North-East London Post-Graduate College 61
Oxford Ophthalmological Congress .. 62
Queen Charlotte's Lying-in Hospital.. 61
Royal College of Surgeons of England 61
Royal Ear Hospital, Soho 61
Royal Institute of Public Health 62
Royal London Ophthalmic Hospital.. 62
University College..... 62
University of Cambridge..... 62
University of London 62
University of Manchester 63
University of Wales 63
Victoria University of Manchester .. 63
West-End Hospital for Diseases of the Nervous System 61

PARTNERSHIPS & PRACTICES 81

RAILWAY & STEAMSHIP CO.'S:—
Elder, Dempster & Co.—
Tours to Jamaica 64
New Zealand Shipping Co..... 63
Orient Co.'s Cruises 64
R.M.S.P.—Tours 64
" Special Yachting Cruises .. 64

TUTORS & LECTURERS:—
Carlyon College 63
Fellowship 63
Knight 63
No. 113, L.O. .. 83
No. 125, L.O. .. 63
No. 233, L.O. .. 63
Parkin 63
Schnelle 63
Weymouth 63
Wilson 84

(For Index to Trade and Miscellaneous Advertisements see page 4.)

The Lumleian Lectures

ON

ANGINA PECTORIS.

Delivered before the Royal College of Physicians of London

BY WILLIAM OSLER, M.D., F.R.S.,

REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF OXFORD.

LECTURE I.

Delivered on March 10th.

INTRODUCTION.

MR. PRESIDENT AND FELLOWS,—Twenty-five years have passed since I stood here, a much embarrassed junior, as Goulstonian lecturer. I have always had a keen sense of gratitude to the College for according recognition to a colonial worker at the time of life when such an action counts for so much, and I recall the intense pleasure of my colleagues at Montreal that one of their number had been selected for the honour. The subject of those lectures came within the ken of the younger Fellows, whose work is, or should be, largely in the post-mortem room and laboratory. And now kindly time has moved me among the seniors, and I have to thank you, Sir, for the opportunity to deliver the course distinguished among all others in the College, since in these Lumleian lectures the incomparable Harvey laid the sure foundations of modern experimental medicine.

I make no apology for the subject I have chosen—Angina Pectoris. In a very special way it is *our* disease, having been first fully described at this College by the English Celsus, William Heberden, and in a manner so graphic and complete as to compel the admiration and envy of all subsequent writers.

Like books, diseases have their destiny. Could Heberden return for a month's busy practice his surprise would be not less at the new cohorts of disease than at the disappearance of familiar enemies. How staggered he would be at the *Nomenclature* of the College! And he would be keen to write new commentaries upon old diseases with new names. How the word appendicitis would jar his critical ear, but how rejoiced he would be to see light on that dark malady, "inflammation of the bowels." Living through a century of theory, he died at the outset of the great awakening in clinical medicine, bequeathing a precious legacy of experience greatly appreciated by several generations of students, and leaving in this College a precious memory which it is our delight to cherish.

Looking through the famous *Commentaries*, one is impressed with the value, with the rarity too, of the old-fashioned, plain, objective description of disease; and one is impressed also with the great gulf which separates the clinical medicine of to-day from that of our great-grandfathers. Page after page of the Commentaries are as arid as those of Cullen or of Boerhaave, and then we light upon an imperishable gem in the brilliant setting of a master workman, whose kinship we recognise with the great of old—with Hippocrates, with Aretæus, and Sydenham. Such a clinical gem is the account which Heberden read at the College, July 21st, 1768, "of a Disorder of the Breast," to which he gave the name "Angina Pectoris," based on the study of 20 cases. When he incorporated the description in his *Commentaries* (written in 1782) his experience had extended to 100 cases.

Historical details I have dealt with at length elsewhere, but in passing one must just mention the predecessors of Heberden, particularly Rougnon, the old Besançon professor. There is no question as to the nature of the case which he describes; you can read for yourselves, as through the kindness of Professor Roland, a distinguished successor of Rougnon at Besançon, I am enabled to show, for the first time, I believe, in this country the rare "Lettre," published in March, 1768. As Rougnon antedated Heberden a few months, so did Morgagni precede Rougnon, and in his excellent report the symptoms are even more fully described, including for the first time the brachial numbness and the aortic lesion; and we get back to classical days if Seneca's disease, which he calls *meditatio mortis*, and the "paradoxon" of Erasistratus, are regarded as angina.

For more than a century the chief contributions to the pathology of the disease have been made by members of this society, and to-day our Fellows number many of its best known students, among whom, Sir, you rank *primus inter pares*. And yet so far as I can ascertain angina pectoris has never been formally considered in one of the College courses. It is, too, a disease for a senior to discuss, since juniors see it but rarely; indeed, I had reached the Fellowship before I saw a case in hospital or private practice. And then I take it that in this course the College wishes an expression of opinion on some affection to which the lecturer has paid special attention. Circumstances have given me a somewhat unusual experience. The lectures published in 1897 were based on a study of the literature and 60 cases; since then I have seen 208 additional cases, and I propose to present very largely my own impressions of the disease.

Let me ask at the outset, What is angina pectoris? Who will give an answer to satisfy all of us? The subject is full of knotty problems, which lend themselves to speculation. I could wish for a more active scientific imagination that amid webs of fancy I might entangle and darken the maturer counsels of some of my distinguished auditors. But with neither the brains nor the inclination for such a task, in a more modest flight I shall consider it as—*A disease, characterised by paroxysmal attacks of pain, pectoral or extra-pectoral, associated with changes in the arterial walls, organic or functional.*

Primarily an affection of the arterial system—of the pump and the pipes, of the system in which are literally the issues of life and death—its protean features cannot be understood unless we remember that between the chief parts of this system, the heart and the arteries, there is no essential difference, since the arteries are only a long-drawn-out heart and the heart but a bulbous expansion of an artery. A physical unit, and worked as such, it is controlled at every moment by an outside mechanism, an elaborate system of nerves which penetrate every part, and even lose themselves in its structures.

The problem before us is the anginal paroxysm in all its grades, from the trifling sense of substernal distress to the vascular *ictus* by which a man is felled as with a club. After a few etiological details I shall discuss briefly the clinical types and certain extra-cardiac features of the disease. In the second lecture I shall consider the pathology, and in the concluding one speak of prognosis and treatment.

GENERAL ETIOLOGY.

Has angina pectoris increased in the community? Has the high-pressure life of modern days made the disease more common? There is an impression among consultants in the United States that there has been an increase of late years, a view not borne out for this country by the figures available. In 1908 there were 929 fatal cases in England and Wales—617 men and 312 women. For the 20 years, 1888 to 1907, the average number of deaths was about 700; in 1905 the number rose above 800; and in 1907 to 942; but the average number of deaths per 1,000,000 living has not materially increased, ranging from 20 to 25, but in 1907 it reached 28. In England the population of the registration districts of England and Wales is about 35,000,000. The statistics for the United States in a registration area, embracing 45,000,000 of people, show a decidedly greater prevalence of the disease. The total deaths in 1908 were just under 3000. But the average number of deaths per 1,000,000 of population have not varied much within the past ten years, but it is more than double that of England and Wales, ranging from 66 to 70 per 1,000,000 of inhabitants.

It is not a disease for which hospital figures are of much service, and yet it is interesting to compare the large institutions on the two sides of the Atlantic. At the Montreal General Hospital in 10,934 admissions for the ten years 1900 to 1909 there were 6 cases diagnosed as angina pectoris. At the Royal Victoria Hospital, Montreal, among 10,510 admissions in ten years in the medical ward there were 9 cases. At St. Bartholomew's Hospital in 1907 there were 2 cases in 2602 medical admissions; in the same year at St. Thomas's Hospital in 2261 medical admissions there was only 1 case. This gives an average of 1 case a year in the wards of the large general hospitals. The figures at the Johns Hopkins Hospital are scarcely available for comparison, since they embrace a very large number of patients admitted to the private wards, and even into the

public wards many of the farmer class are admitted from the country at large.

These figures bear out a remarkable fact with which we are all familiar—that angina pectoris is an affection of the better classes, and not often seen except in private practice. During 10 years I did not see a case at the Montreal General Hospital, and only one case at the University Hospital, Philadelphia; and I have no notes of a case seen at the large Philadelphia hospital. It is only as the consultant's work increases that he begins to see the disease, and then a man in active practice may see 10, 15, or more cases in the course of a year. This was about my average, and I see from the statements of our President, and of the late George Balfour of Edinburgh, that this is about the figure reached in this country by the consultant with recognised cardio-vascular leanings. Once there was the unusual experience of eight cases in a month (May, 1899), three of which died in the same street within a short distance of each other, or, to be more accurate, one died on the steps of the cathedral, the other two in adjacent houses not far away.

Let me give as briefly as possible my personal statistics. I have notes of 268 cases in all—231 men, 37 women. If we recognise, as was my custom, mild neurotic or pseudo, and a grave organic or true form, there were of the former 225, and of the latter 43. I have not counted *les formes frustes* unless a case had subsequent severe attacks. As Heberden remarked, women are rarely affected, only 3 of his 100 cases. Of the severer form of 225 cases there were only 14 women. On the other hand, of the minor type, of 43 cases there were 23 women. It is somewhat surprising to see that in this country in the registered fatal cases of angina for the past 20 years the ratio of women to men was 1 to 1·8—5133 women to 9303 men.

The age incidence is late, the largest number of cases occurring in persons over 50. Of the 612 deaths in England and Wales, only 36 occurred between the ages of 35 and 45; while between 45 and 65 there were 291 deaths. In my list the age was much the same. There were under 30 years of age, 9; between 30 and 40, 41; between 40 and 50, 59; between 50 and 60, 81; between 60 and 70, 62; between 70 and 80, 13; above 80, 3. In women the age incidence is, on the whole, a little lower than in men.

An interesting point in my series relates to the race incidence. Of 268 cases 37 were in Jews. Nowhere in the world are members of this gifted race seen to greater advantage than in the United States, where the opportunities of a rapidly growing country give scope to their exceptional genius for business. Living an intense life, absorbed in his work, devoted to his pleasures, passionately devoted to his home, the nervous energy of the Jew is taxed to the uttermost, and his system subjected to that stress and strain which seems a basic factor of so many cases of angina pectoris. It is only fair to state that this high percentage scarcely represents a true state of affairs, since certain circumstances gave me an exceptional *clientèle* among the Hebrews.

Angina in doctors.—A point that stands out prominently in my experience is the frequency of the disease in our profession. For the same reason doubtless that Sydenham gives for the incidence of gout "more wise men than fools are afflicted," angina may almost be called "morbus medicorum." 33 of my cases were in physicians, a larger number than all the other professions put together. Curtin[1] in his study of 60 fatal cases notes that a fourth were in physicians. This large percentage in my list may in part be attributed to the circumstance of the publication of lectures on the subject in 1897. But the frequency with which doctors die from the disease has become the subject of common remark. From John Hunter onwards a long list of most distinguished men have been its victims. Not to mention the older physicians, among our contemporaries was Nothnagel, himself one of the ablest students of the disease, whose last act in life was to describe his own fatal attack. A tragic interest relates to this incident in the career of the great Vienna clinician. I do not know that the note has ever been transcribed in English; it reads as follows: "Anginal attacks with very severe pains. Pulse in the attack very variable, at one time slow, 56 to 60, quite regular, high tension, and then again rapid, 80 to 90, tolerably even and regular; then again quite unrhythmic, unequal at one time, rapid another, slow with changed tension. The first sensation of this attack dates three or four years back, at first slight, gradually becoming more pronounced. Very severe attacks with great pain have only come on within the last five or six days. Written on July 6th late in the evening, after three very severe attacks." Within a few hours after this note the end came. Charcot, the founder of modern neurology, died in an attack in the arms of his friend Straus, who himself succumbed to the same disease not long after. The distinguished neurologist Joffroy died from it in Paris last winter. Our much-beloved friend and Fellow, Cullingworth, was its victim, and the list could be much extended. The most brilliant and devoted physician of his generation in the United States, the late William Pepper, died with coronary arteries like pipe-stems. The Provost, indeed the maker, of a great University, the very head and front of every important public movement in a city of a million inhabitants, a universally sought consultant, an enthusiastic teacher, a prolific author, in him was incarnate the restless American spirit, which drove him into a premature grave at the height of his career at the comparatively early age of 55.

I have looked over carefully the notes of the 33 cases to see if any factors could be said to favour. Only 7 were above 60 years of age, one a man of 80 with aortic valve disease. The only comparatively young man in the list, 35, was seen nearly 20 years ago in an attack of the greatest severity. Worry and tobacco seem to have been the cause. He has had no attack now for years. Two cases were in the fourth decade, 13 were in the fifth, and 11 in the sixth.

For the purpose of this analysis we may exclude the cases above the age of 60, after which age no man, much less a doctor, need apologise for an attack of angina pectoris. Neither alcohol nor syphilis was a factor in any case; of the 26 cases under 60, 18 had pronounced arterio-sclerosis and 5 had valvular disease. In a group of 20 men, every one of whom I knew personally, the outstanding feature was the incessant treadmill of practice; and yet if hard work—that "badge of all our tribe"—was alone responsible would there not be a great many more cases? Every one of these men had an added factor—worry; in not a single case under 50 years of age was this feature absent, except in Dr. G., who had aortic insufficiency, and who had had severe attacks of angina years before, probably in connexion with his aortitis. Listen to some of the comments which I jotted down of the circumstances connected with the onset of attacks: "A man of great mental and bodily energy, working early and late in a practice, involved in speculations in land"; "domestic infelicities"; "worries in the Faculty of Medicine"; "troubles with the trustees of his institution"; "law-suits"; "domestic worries"; and so through the list. At least six or seven men of the sixth decade were carrying loads light enough for the fifth but too much for a machine with an ever-lessening reserve.

It is a significant fact that in Ogle's well-known study[2] "Statistics of Mortality in the Medical Profession," among 3865 deaths 444 were undefined diseases of the heart and circulatory system, though only 34 deaths were specified as due to angina pectoris. The same dominance of cardio-vascular disease is indicated in the Registrar-General's Report.[3]

CLINICAL TYPES.

It is interesting to look over a long series of some one affection with a view to classification. Angina pectoris offers notorious difficulties, and I do not suppose there are any two of us who would agree.

As far as symptoms are concerned my cases fall into three groups: (1) Les formes frustes; (2) mild; and (3) severe.

1. *The mildest form, "les formes frustes" of the French.*—Substernal tension, uneasiness, distress, rising gradually to positive pain, a not infrequent complaint, one, indeed, from which few of us escape, is associated with three conditions. Emotion is the most common and the least serious cause. How often does it happen on getting up to speak, or when beginning to read a paper, that a man experiences a sense of tension just beneath the breast bone, a curious indescribable

[1] Transactions of the American Climatological Society, vol. xxiii.

[2] Transactions of the Royal Medical and Chirurgical Society, vol. lxix.

[3] Decennial Supplement, Part II., 1908.

feeling, not of pain, yet sometimes working to a degree of uneasiness that is only relieved by firm pressure? The slight associated pallor indicates a vaso-motor disturbance which may increase, and a man may have to stop speaking; indeed, I have known instances in which fainting has occurred. In one of my physician-patients, a well-known author, the attacks of true angina began in this way; while lecturing he would experience a feeling of substernal tension and for years had nothing else and had it under no other circumstances. He could play golf and ride, and do an extraordinary amount of work without any uneasiness. Only a single action may bring it on. Dr B. could lecture and hold his clinic without experiencing any difficulty, but if he read a paper before the Medical Society, or if he gave an address in public, the substernal tension was certain to come on. In this form the condition is very transient; while sometimes a danger signal, in many cases it may be disregarded altogether. Not so the second form, in which this substernal distress is associated only with muscular effort—the slightest ascent, the extra round of golf, a sudden hurrying, as to catch a train. Much more frequently the precursor of angina, it is remarkable for how long a person may have slight attacks without aggravation. In a tranquil life the individual is perfectly comfortable. As old Dr. K—— of Philadelphia used to say to me, "I can stand anything in life but a hill or a stair." A Mr. W—— could walk a mile from his home to his office, but for several years he could not walk back on account of the slight up-grade. He never had an attack of angina, though he died from myocarditis and a dilated heart. In these emotional and muscular types of the "formes frustes" the condition is usually transient. But there is a third variety, the *high-pressure form*, in which day after day, for weeks or months, the individual may never be free from a sense of tension beneath the breast-bone. It is not pain; it has no accurate localisation except that it is directly substernal; there is no radiation; it is not increased by emotion or by exertion, but obtruding itself into consciousness as an unpleasant reminder it means just one thing—that the machine is being driven at too high a speed. The general manager of one of the railways of the Southern States used to call it his "hot box"—i.e., his "hot axle." It is met with in men who are burning the candle at both ends—working hard at business or in a profession and at the same time treading the "primrose path." It is not always of sufficient severity to cause the patient to consult a physician. The Sunday rest may cause its disappearance. Not always a high-pressure affair alone, it is aggravated by worries, particularly the possibility of not carrying through some big scheme or the onset of a financial crisis. With the harness off it may disappear completely. One man writes: "The second day out on the steamer from New York I am free, not the slightest sensation of my enemy." In looking up the history of these cases, in three only did severe angina follow. I have not included "les formes frustes" in my list unless there were other features, such as definite paroxysmal attacks. It is only occasionally severe enough to make a patient seek advice. It is significant that of five cases of which I have notes of the blood pressure, in all it was above 180 and in one 250.

2. *The mild form.*—Under the mild form, *angina minor*, come 43 cases of my series. I have grouped under these the neurotic, vaso-motor, and toxic forms, the varieties which we used to speak of as false or pseudo-angina, a term which I agree with Gibson and others is best given up, since, as I hope to show in the next lecture, the basic features of all forms are identical. Still, it is a very useful exoteric term, a comfort to the patient and his friends. The special features of this variety are—the greater frequency in women, the milder character of the attacks, and the hopeful outlook.

3. *Severe angina, angina major.*—This group is represented in my series by 225 cases, of which 211 were in men. The two special features here are the existence in a large proportion of all cases of organic change in the arteries and the liability to sudden death. It is not easy, nor is it wise, to class cases by symptoms alone, but all the same there is an interest in so doing, and my list may be divided into four groups.

A. Cases in which death occurred in the first or second attack, or in connexion with a series of rapidly recurring attacks—the so-called *status anginosus*. We do not know how many instances of sudden death in the street or in bed at night are due to angina pectoris, but only three cases in my series died in the first attack. The mode of death is not always the same. In certain cases it is the most rapid we see—without warning, or after a few minutes of unpleasant substernal sensation, or possibly in some act, combining intense emotion with muscular effort, there is a rapid change, a sudden unconsciousness, a stony stare, a slight change in the facial expression, and then with two or three gasps all is over; no pulse is to be felt at the wrist; the respiration stops, but even when the patient is apparently dead a feeble heart impulse may be felt or faint heart sounds heard.

B. The patients have had a series of characteristic attacks ranging from two or three to scores during the course of a few months or a year or more, and in a severe paroxysm or in a series death occurs. The final event has not the same suddenness, nor is there the rapid loss of consciousness; the patient may indeed be moribund and quite conscious, though this is unusual. The mode of dying in these cases is very remarkable. In a number of instances I have made careful notes. Two are worth quoting:—

On Thursday, May 25th, 1899, while at work in the ward, Dr. Knox called me to see a patient in an attack of angina. I found a man, aged 41, who had been admitted the previous day complaining of pain in the heart. He had been a heavy worker, a large eater, had not had syphilis. Five years ago while rowing he had an attack of pain and shortness of breath, which lasted for a few minutes. On and off since then similar attacks have occurred, always brought on by exertion, now even by very slight effort. He had aortic insufficiency, and a very soft low tension pulse. About 9.30 A.M. his hands and feet had become cold and a little cyanosed, and he had a slight attack. It continued on and off all the morning. I saw him at five minutes past 12; he was propped up in bed moaning with pain, but was not sweating; the pulse was soft, regular, and feeble—100 to the minute, the left smaller than the right. Everywhere over the chest in front and back were medium-sized râles; the pulmonary resonance reached almost to the costal border on the right side, and the superficial cardiac flatness was completely obliterated; there was a soft apex systolic murmur, and a soft diastolic aortic heard along the sternal border. At 12.15 he had a sudden collapse, became pulseless, the features set, and he gave one or two gasping respirations, which recurred at intervals of about five minutes. No pulse could be felt in carotids or brachials. Remembering the remarkable case reported by Sloan, I performed cardio puncture, thrusting a long thin aspirator needle into the heart through the fourth right interspace. This was followed at once by one or two faint inspirations; the needle showed a cardiac impulse very plainly, beating 52 to the minute. At 12.25 the needle was moving much more slowly and more feebly—44 to the minute. A saline injection was made directly into a vein. At 12.28 the cardiac beats as shown by the needle were still regular—32 to the minute, without any tremor in the interval, such as might be given by fibrillation. At 12.37 the excursion of the needle was a little stronger. No heart sounds could be heard; no pulsation in the veins of the neck. At 12.44 I injected a tenth of a grain of strychnine directly into the wall of the left ventricle. The needle in the right fourth interspace continued to show definite movements, gradually getting feebler, and stopped at five minutes past one, 50 minutes from the onset of the collapse, and exactly 45 minutes from the last inspiratory gasp.

Nov. 4th, 1901.—I was sent for hurriedly this morning to see a stout, healthy-looking man, aged 57, whom I had known for some years, and had seen at intervals. As I entered the room at 8.15 the patient apparently was *in articulo mortis*; indeed, I thought he was dead. The eyes were fixed, the pupils dilated, the face of an ashy colour, and he was not breathing. Seeing my startled look, Dr. Atkinson, who was just preparing a hypodermic injection of ether, said: "It is all right; he will come to; he has had four such attacks in the night." There was no pulse in either radial, but listening over the heart one could hear feeble distant heart sounds. In about a minute (it seemed to me longer) the patient began to breathe; inspiration and expiration were somewhat noisy and deep, and accompanied everywhere with loud bronchial râles. He did not recover consciousness. He became more livid in the hands and face, and the pupils became contracted. The pulse could be felt, small at first, but it then became of much better volume and ranged from 56 to 68. In the course of ten minutes the breathing became less laboured; his colour improved and lost the ashy look, but he did not regain consciousness. The heart sounds could be well heard; the pulse was full and soft, 62. At 11.15 the patient died in another attack. He had not regained consciousness. He had had his first attack of angina on Nov. 2nd.

C. A chronic form, represented in my series by 10 cases, all of which were characterised by frequent recurring attacks over a period of more than 10 years. John Hunter, you remember, had had his first seizure in 1773, 20 years before his death, and he had many in the intervals. One special feature of this form is the frequency with which certain special actions are associated with the attacks. A patient may be perfectly comfortable and remain free if he leads a tranquil life with little or no muscular effort: a slight hill, the act of dressing himself, may be sufficient to bring on an attack; or in another patient an indiscretion in diet. This is a form with which the patient may feel comfortable for a great many years. I have had several friends, two of them medical men, who have managed very comfortably for more than 10 years, in spite of the liability to attacks. On the other hand, they may be among the most distressing cases we see. A Mr. D. of Wilmington lived a life of martyrdom

for more than 10 years; emotion, cold, exercise, eating, would bring on the attacks, and his existence was a burden—not a week passed without an attack. He was thought to be neurotic and hysterical, though a man of 60. He had remarkable quivering of the fingers in the attacks, and on several occasions became unconscious. He threw himself about and was in intense distress during the paroxysm. I saw him in an attack and felt sure the condition was serious. The left radial pulse became very much smaller than the right. He died suddenly after nearly 11 years of suffering. Both coronary arteries were calcified.

D. A group of cases, not large, I am sorry to say, in which after attacks of great severity, recurring for months, or for as long as two years, complete recovery takes place. These are cases I shall deal with more fully in speaking of prognosis.

EXTRA-PECTORAL FORMS.

Angina pectoris is an affection of the arteries. The studies of Nothnagel in 1867 on the vaso-motor phenomena of the attacks widened enormously our conception of the nature of the disease, and we have come more and more to regard the symptoms of the attack as an expression of a *vascular crisis*, to use the apt term introduced by James Collier. I shall try in the next lecture to discuss the disease from this point of view. Meanwhile here may most conveniently be considered certain extra-pectoral, or, more properly speaking, extra-cardiac features, which have a direct bearing upon our conception of its pathology. Following this wider conception it is interesting to note in the literature the use of such terms as "angina abdominis," "angina cruris," "angina brachialis." In looking over my list I find a considerable number of instances in which prominent features of the disease were extra-pectoral or there were symptoms suggestive of vascular disturbance in distant parts. It is difficult to make a classification of the symptoms, and certainly one cannot take for granted that they were always due to vascular crises. But I may roughly group the cases into those with (A) peripheral, (B) abdominal, (C) pulmonary, and (D) cerebral features.

A. *Peripheral angina.*—Heberden first recognised that the patient could die from angina pectoris without any pain in his chest. In his *Commentaries* he describes the case of a man, aged 60, who began to feel, while walking, an uneasy sensation in the left arm, never while in a carriage. After continuing for ten years it would come upon him two or three times a week at night, and he would have to sit up for an hour or two. In all other respects he was healthy and strong, and he never had a pain in the chest. Then he added: "This disorder, its seat excepted, perfectly resembled the angina pectoris, gradually increasing in the same manner, and being both excited and relieved by all the same causes. He died suddenly without a groan at the age of 75 years." In Lord Clarendon's case, as noted by Blackall in his famous book on *Dropsies*, the pain was always brachial, even in the fatal attack.

Four cases in my series presented in some degree this brachial peculiarity. In L. N. H., aged 58, the pain began in the middle of both forearms; when walking he would be warned at once of the onset by sharp pains appearing simultaneously about the middle of both arms; if he stopped to look at a window the pain would disappear, if he attempted to proceed it would increase in severity, and he would begin to feel faint; sometimes then the pain would extend to the chest. The first occasion on which I saw him the pain was entirely in the arms; there was no cramp, and he pointed to a position about the centre of each forearm. There was moderate sclerosis of the brachial and radial arteries. In Mr. D., aged 42, the pain always began in the left elbow where it would sometimes stay, though more frequently it extended up the arm to the heart. Dr. M. C. G., aged 69, insisted that the pain which "pulled him up short" on exertion was in the elbow, or rather at a point 2 inches above it, in the biceps muscle itself. So severe would it sometimes be that he would turn pale and sweat. He subsequently died in an attack.

In three instances the chief symptom was at first in the legs. My distinguished friend, Dr. W. W. J., for many years the leading physician of Washington, D.C., at the onset of the attacks had remarkable pains, with numbness in the left leg; there were no cramps, but the pains were sometimes intense, and he called it his "signal symptom." In a letter containing a very accurate analysis of his attacks he says that the painful sensations in the left leg seemed to initiate the outburst, though sometimes the pains remained limited to the leg. In F. L., aged 58, whom I saw in many attacks, some of maximum severity, they began with pains in the legs. I never saw a patient so drenched with sweat in the paroxysm, he was literally dripping, and could not have been more soaked had a hose been turned upon him. As he expressed it, he did not know which caused him the greater trouble, the painful cramps in the legs or the pain in the chest. He had indeed typical features of intermittent claudication, as the pain, sometimes with, sometimes without, actual cramp in the muscle, would pull him up short in the street.

It is a noteworthy circumstance that all the vaso-motor phenomena, even to fainting, may be associated with extra-pectoral pain. Colonel E., aged 66, had agonising attacks of pain without cramp in the left leg, in the first of which he turned pale and fainted. The true nature of the attacks was not recognised until he began to have substernal pain and angina pectoris, in an attack of which he died.

I witnessed a remarkable attack in which the pain was limited to the right pectoral muscle. The man, aged 55, when shown into my consulting-room had an ashen grey colour and looked faint. He said at once: "Doctor, I am in an attack." Though his pulse was 172, and he looked faint and was sweating, he preferred to walk about. I was apprehensive lest he should drop dead on the spot. He pointed to and grasped the right pectoral fold, repeating the words, "Here is all my trouble." He had had attacks of great severity for four years. The pain always began in the right pectoral muscle, and sometimes stayed there, but if very severe it went down the right arm. In the attack in which I saw him the skin was not hypersensitive, there were no tender spots anywhere, but the muscle itself was very sensitive; he winced at once when it was touched. It would remain sore sometimes for hours after the attack had passed off.

In only one of these cases were the features those of intermittent claudication, angina cruris, as Walton terms it, which has close analogies with angina pectoris, particularly its paroxysmal character, the pain, which is not necessarily associated with cramp, and the cessation when the patient comes to rest. In a syphilitic woman, aged 37, admitted on March 7th, 1900, with severe angina, in two attacks in December the left foot and leg became œdematous and painful. The arteries and veins of the limb were normal.

Pain in the *testicle*, sometimes with swelling, is mentioned by one or two writers as an occasional feature during the attack. In the case of our late colleague, Dr. C., the pain was sometimes very severe in this region, and the attack would even begin there. It is possible that the pain may be limited to the testis; at any rate, the following is a very suspicious case. A man, aged 56, while speaking at a meeting, was seized with an agonising pain in the left testis, and became pale and faint; there was no swelling, no tenderness, no radiation of the pain, but his condition must have been very serious, since the doctor did not think he would survive. He had attacks at intervals of every two or three months. Four days before I saw him he had a very severe paroxysm, in which he became faint and sweated, and for the first time had a sense of tension and distress just below the ensiform cartilage. He was extremely feeble and collapsed, and the attack lasted for 12 hours. He had slight arterio-sclerosis, with accentuation of the aortic second sound.

B. *Angina abdominis.*—That angina attacks may begin in the abdomen has long been recognised. Several writers have called attention to the similarity of the gastric crisis of locomotor ataxia to angina. In my series there have been three groups of cases with abdominal symptoms. An important form is met with in nervous and hysterical patients with the combination of throbbing, tender, and mobile abdominal aorta and recurring crises of gastric pain. The pains may radiate to the chest, or gastric and thoracic crises may alternate, as in an extraordinary case in a lad aged 17—"a bundle of nerves"!—who nearly died in the paroxysms. The extreme tenderness of the aorta in some of these cases led Potain to suggest the existence of aortitis, while the radiation of the pain, &c., has given the term *syndrome solaire* to the group of symptoms. In some 10 or 12 cases in men of middle age the anginal symptoms at first were abdominal, and the true nature was not suspected. In many cases the attack starts in the upper abdomen. As

Mr. C. expressed it, "a wave starts here"—pointing to his stomach—"and passes up with a feeling of fright, and when it gets beneath the breast-bone it cuts me short as though the machinery of life had stopped." In my "Lectures" I have reported several cases of the pseudo-gastralgic type, as Huchard calls it, but in reality Leared in 1867 first called attention to these disguised cases. The difficulties in diagnosis may be very great, particularly in the form which resembles the tabetic crisis. A Mr. P., aged 58, seen on Feb. 11th, 1897, had attacks of cramp-like pains in the upper abdomen passing to the back, in which he became completely prostrated and sweated and vomited, and only morphia gave relief. The pains began just under the ensiform cartilage but never ascended. He had not had syphilis, the knee-jerks were present, the pupils were normal. He had aortic insufficiency and sclerotic arteries. There was no lead-line. He was a very healthy, robust man, only every month or few weeks he would be prostrated in an attack, in one of which, Dec. 20th, 1899, he died. In three other instances in the series gastralgia had been diagnosed, in one the malarial form, but the character of the attacks altered and left no doubt as to the nature of the trouble. And lastly, I have a group of three cases in which attacks of typical angina pectoris were complicated with abdominal pains, like gall-stone colic and jaundice. The combination may be quite accidental, but abstracts of the cases are worth recording.

Captain M——, aged 60, seen Jan. 13th, 1897, had had in 1890 attacks of angina pectoris of the most characteristic type. In 1893 he had pains in the region of the liver with jaundice; these recurred at intervals, and he was operated upon by Mr. Mayo Robson at Leeds, May, 1895, but no gall-stones were found. He consulted me for pain in the abdomen, crossing from one side of the costal arch to the other, like a band or constriction; at times it became very aggravated. Food made no difference, and there was no tenderness on pressure and no enlargement of the liver. While more or less constant the abdominal pain comes on in spells, and sometimes makes him feel faint and sick at the stomach.

Mr. A. W.——, seen April 4th, 1903, aged 59, in the first attack of angina four years ago had pains in the abdomen of great severity, and he was jaundiced after the attack. It was supposed to be gall-stones. Four months ago he had a very bad night, with attacks of pain in the chest and much discomfort in the epigastrium; on the following day he was jaundiced. The curious thing was that he could not differentiate the pain in this epigastric attack from the furious seizures of definite angina, in many of which I saw him during the six weeks that he was in hospital. He died in an attack of angina some months later.

Dr. J. C. T., aged 64. After a day or two of indigestion and irregular pains had on Oct. 27th a severe attack of pain in the chest, with extension into the arm, evidently of great severity. On the 30th the pain was more abdominal, and he was very sensitive over the region of the gall-bladder; on Nov. 1st and 2nd the pain was abdominal, and tenderness marked over the gall-bladder, and he had become jaundiced. This relieved our minds, as we were afraid from the character of the early attacks that it was angina. By Nov. 9th he was very much better, and the pains had almost disappeared, and at 6 o'clock when I saw him he seemed nearly well; but at 8 o'clock, while his son and the nurse were in the room, he gave one or two short, quick, sighing inspirations, his head dropped on his chest, and he died instantly.

C. *Respiratory features of angina.*—The pulmonary symptoms of the attack have been carefully studied by many observers. A man may die from angina without any change in the respiratory function other than abrupt cessation; indeed, the death may be at the medulla, so suddenly does respiration cease, even for nearly an hour before the heart ceases to beat. Ordinary cardiac asthma is a common symptom—the orthopnœa, the light cyanosis, and the feeble pulse of myocardial weakness. Cheyne-Stoke breathing is not infrequent, and in the status anginosus may be present for weeks. But there is another type much more characteristic and quite unlike the ordinary cardiac asthma: it is paroxysmal, occurring abruptly, often at night; it is not associated necessarily with signs of myocardial weakness; it is accompanied with very high tension; it may alternate with attacks of angina or come on in one, and sometimes bears the stamp of an acute œdema of the lungs. There are four special features.

First, the universal distension of the lungs in an acute emphysema as Goodhardt described it; the inspiratory excursion is limited; expiration is prolonged; in one patient the chest even looked larger; and the increase in the volume of the lungs may be demonstrated by percussion. The condition is what von Basch has called "lungenschwellung" and "lungenstarrheit," a state which he believed to be due to distension of the capillary network, with swelling of the alveolar walls.

Secondly, the rapid onset of the physical signs, like those of an acute attack of bronchial asthma, wheezing, fine bubbling râles, and prolonged expiration. Within ten minutes the attack may be in full swing.

Thirdly, acute œdema of the lungs may follow, indicated by a great increase in the bubbling râles and the rapid expectoration of large quantities of a thin, frothy, sometimes blood-tinged, liquid. The attacks may be transient, lasting only for a few hours, and give a very special pulmonary stamp to the attack.

Fourthly, increased blood pressure, rising to 250 millimetres and over (Riva-Rocci). In one case (Dr. J. H. K.) the record was 340 millimetres during an attack, in the intervals it was 250. On three occasions he brought up large quantities of a clear fluid, with blood.

In May, 1899, I saw on several occasions with Dr. Atkinson Mr. G., aged 65, who had had his first and very characteristic attack while walking up a hill on April 27th. It was probably an attack associated with acute infaret of the ventricle, as a pericardial rub was detected the next day. On the first occasion I saw him he was propped up in bed, wheezing audibly, expiration was prolonged, and cardiac flatness was obliterated. The pulmonary resonance on the right side extended to the costal margin. He was coughing and bringing up a considerable quantity of frothy, liquid expectoration. The pulse was full, regular, 100, and of high tension; the heart sounds were muffled and obscure; he had at the time no pain, but this acute condition of emphysema had followed the attack in the morning; within a few hours it had disappeared and Dr. Atkinson thought that there was a definite reduction of the lower limits of the lungs.

The condition may be associated, as just mentioned, with extraordinarily high tension. A man, aged 43, was admitted to Ward C, Nov. 17th, 1900, complaining of shortness of breath and attacks of substernal pain. He weighed 190 pounds, was a very heavy eater, and had not had syphilis; the blood-vessels were sclerotic; he had loud aortic second sound; the blood pressure was very high. I saw him in an attack of pain on Dec. 11th; he was not cyanotic, the pulse was regular; very high tension; the heart sounds were clear, loud, and sharp; he then turned pale and sweated, and the pulse at the wrist became almost imperceptible. He began to wheeze, and in a few minutes one heard on auscultation high-pitched sibilant râles mixed with fine crepitations. These were very intense and sounded close to the ear, suggesting at first a friction rub; the percussion note over the lungs became hyper-resonant and on the right side reached almost to the sternal margin. A hypodermic of morphia relieved his pain. The hyper-resonant condition of the lungs persisted for two days; a remarkable change in his facial expression occurred, as after the attack he had for days retraction of the upper eyelids. A Mr. C., aged 62, who had very characteristic attacks of angina pectoris, had several severe but transient pulmonary attacks, in one of which he had hæmoptysis.

One of the most remarkable cases was that of a coloured woman, aged 54 years, who was in the hospital for several weeks, and who died in an attack on Jan. 28th, 1897. She would wake at night from a sound sleep with pain in the region of the heart, and in five minutes she would have urgent dyspnœa, noisy respiration, with coarse râles everywhere over the chest. A hypodermic of morphia with atropine would quiet her within an hour or two. She was under observation on and off for more than a year, and she had scores of the pulmonary attacks, sometimes with pain but very frequently without. In the severer attacks she would have strong tonic contractions of her fingers and hands. We often discussed the character of this paroxysm, as it was suggested that she might have had asthma previously. In the suddenness of the onset and the rapidity with which the attacks came on, the limited duration and prolonged expiration suggested bronchial asthma. She did not always have a cough and rarely had expectoration.

One case in the series had indications of consolidation of the lower lobe of one lung in connexion with an attack, and curiously enough, while preparing this lecture, Dr. T. McCrae, knowing my interest in the subject, sent notes of the case of a man, aged 35 years, who died from angina. The attacks yielded promptly to amyl nitrite, but in the last one there were acute pulmonary symptoms for 24 hours, oppression, cough, &c., and scattered areas of consolidation with tubular breathing and râles.

A case with extraordinary respiratory features was that of Captain H., whom I frequently saw with Dr. McCormick. A man of extraordinary vigour and health, aged 71 years, and of great intelligence, he had, as is not uncommon,

studied his case most closely. For years he had had to be very careful in doing all the small actions which necessitated stooping, as in tying his shoes or in getting into his bath-tub, as he would experience such intense pressure in the chest which would render him immobile for a moment or two. Then he had a second variety, which corresponded to ordinary severe attacks of angina, terrible paroxysms of great severity. And thirdly, he had respiratory attacks, in which, waking from a sound sleep, he would gasp as if every breath would be his last, and then he would choke and begin to cough; the respiration became wheezing and the piping râles came everywhere over the whole chest just as in a severe attack of asthma. In from 10 to 15 minutes he would bring up large quantities of frothy, sometimes blood-stained, expectoration, as much as a large teacupful. He died in an attack of angina.

D. *Cerebral features of angina.*—Unconsciousness may occur during an attack. Epilepsy, believed by Trousseau to be closely related to angina, occurred in two cases, in neither in direct connexion with the paroxysm. Certain of the reported cases may have been the Stokes-Adams disease, in which the epileptiform attacks are sometimes preceded by pain about the heart. In only three cases transient cerebral symptoms occurred during attacks. T. S., aged 51 years, had had for three years occasional paroxysms. On Sept. 20th, 1901, while in a seizure, he had transient numbness of the left hand and foot and side of the face. The left leg dragged. These symptoms disappeared in the course of the day, but he complained of his eyesight and was found to have lateral hemianopia. The condition resembled closely the transient cerebral attacks so common in arterio-sclerosis.

Aphasia is a rare complication. I. B., aged 63 years, seen Jan. 14th, 1900, had had angina on and off for five years. In four attacks he had had transient aphasia without losing consciousness. In a recent attack he was speechless for an hour, and once eight hours passed before he could say a word. Dr. McKnew said that there was no trace of paralysis and that he could understand everything and write. He had widespread sclerosis of the vessels. He died in an attack.

A remarkable feature existed in the case of Mr. M., who in the attacks had an intense pain at the back of the head, inside he insisted, and he would hold his head between the hands to avoid pain on movement.

L. S., aged 31 years, was admitted on Feb. 21st, 1898, with paroxysms of severe angina, which had recurred for several years, usually following exertion. Five attacks occurred in the month before admission, one with unconsciousness. He had not had syphilis, nor was there heart disease. He had had on several occasions temporary loss of power in the left hand with numbness. In the paroxysm just before admission, which was of great intensity, the left arm and leg were paralysed for two days. The face was not involved.

I have dwelt upon these extra-cardial features with a special object, as they throw light upon the essential nature of the disease, which I propose to discuss in the next lecture.

NOTIFICATION OF CEREBRO-SPINAL FEVER (EPIDEMIC CEREBRO-SPINAL MENINGITIS).—In accordance with the provisions of Section 56 of the Public Health (London) Act, 1891, the London County Council has issued an order requiring, for a further period of 12 months as from and including March 13th, 1910, the notification of cases of cerebro-spinal fever (epidemic cerebro-spinal meningitis) in the Administrative County of London. The order, which has been duly approved by the Local Government Board, will come into operation as from and including March 13th, 1910, the date of expiration of the order at present in force. The Council has considered whether the term "cerebro-spinal fever" includes, for the purposes of notification, cases of posterior basal meningitis, and, on the advice of a committee appointed by the President of the Royal College of Physicians of London, has decided that, for notification purposes, the disease at present known as posterior basal meningitis is included in the term "cerebro-spinal fever." That term, however, is not to be interpreted to include cases of meningitis due to tuberculosis, syphilis, middle-ear disease, or injury. The clerk of the Council states that the services of Mr. W. M. Wanklyn, the Council's assistant medical officer of health, Public Health Department, 8, St. Martin's-place, London, W.C., will be available with a view to the investigation of cases in association with medical practitioners, should they so desire.

A Presidential Address
ON
THE MEDICAL EXAMINER IN LIFE ASSURANCE.

Delivered at the Annual Meeting of the Life Assurance Medical Officers' Association on Feb. 9th, 1910,

BY HECTOR W. G. MACKENZIE,
M.D. CANTAB., F.R.C.P. LOND.,
PHYSICIAN TO ST. THOMAS'S HOSPITAL, LONDON; AND TO THE HOSPITAL FOR CONSUMPTION, BROMPTON.

GENTLEMEN,—On entering on office as President I must first thank you for the honour you have done me in electing me to this position, and I need hardly say that it will be my endeavour to discharge its duties so as best to further the interests of our association. The society has been in existence nearly 20 years, but is still in the pristine vigour of youth, for is not our retiring President (Dr. Glover Lyon) its founder? To the founder we are now under an additional obligation, for as the President of the society during the last two years he has taken an especial interest in its welfare. He has had the foresight to recognise the important part which sickness and accident assurance will play in the future, and during his reign of office we have enlarged the scope of the society, so that it is now concerned with the medical aspect not merely of life, but of every form of assurance.

The Employers' Liability Act has introduced many difficult problems, and the important communications of Sir Thomas Oliver and of Dr. R. J. Collie dealing with these have excited much interest in the assurance world. Some of our members perhaps may think that we have devoted more than its due share of the time to accident assurance, but they may rest assured that life assurance will always hold the foremost position in the deliberations of our association.

SUBJECTS FOR DISCUSSION.

During the present year we are about to consider several subjects of real practical importance. At the next meeting it has been arranged that we shall have a discussion on Disease of the Teeth in Relation to Life Assurance, and the subject will be introduced by a paper from an eminent dental surgeon, Mr. J. F. Colyer. I need not enlarge on the importance to health of the body of sound teeth and gums. In many of the medical report forms the examiner is specially asked to report on the condition of the teeth and gums. Unhealthy or defective teeth are responsible for much chronic dyspepsia and consequent ill-health, but there is one disease of great prevalence and of vast importance affecting the gums primarily and the teeth secondarily which at the present time is ill understood by many members of our profession—Riggs's disease. You find the margin of the gum red and swollen and pus exuding from the sockets of the teeth. A slight degree of pyorrhœa may be passed over, but a high degree is incompatible with a good condition of the general health and must always be considered as a source of danger. In my opinion no life with a decided pyorrhœa is a good risk, and acceptance should be postponed until the mouth has been put into a healthy condition. When I come across a pale, unhealthy-looking subject I always suspect among other things this disease. When a proponent who wears artificial teeth is under examination he should be asked to remove them. I have frequently found that underneath the plates there are stumps with pus oozing from the sockets. Many a case of obscure health is due to a septic condition of the mouth, a condition which, because unsuspected, is not looked for and not discovered. I accordingly consider the discussion of this subject as of great importance from an assurance point of view. I hope that we shall be able to secure the attendance and elicit the opinions of other dental authorities besides Mr. Colyer, and that many of our own members will take part in the discussion of the subject.

At our third meeting Dr. F. Parkes Weber will read a paper on Traumatic Pneumonia, Traumatic Pleurisy, and Traumatic Tuberculosis. This subject is one of growing importance in connexion with accident assurance, and it is fraught with considerable difficulty. It is common knowledge that an injury to a bone or a joint may be followed by a tuberculous

disease, or that injury to a lung or pleura may be followed by tuberculous or pneumococcic or other microbic disease. But in the first place the disease may have been there before the injury, and in the second place the injury may play only a minor part in the production of the disease. It is in cases of this kind that a medical assessor would be of the greatest value in arriving at a right conclusion.

The question of insurance before operation is going to be presented to us by Mr. McAdam Eccles at our fourth meeting. At the moment I think the attitude taken up by insurance medical officers in cases in which an operation is to be performed is to advise postponement until after recovery from operation. The great difficulty in most cases is to assess the risk, but there are many operations in which one knows that the risk is but slight. The operation, for instance, for removal of the vermiform appendix during the quiet stage is one in which the mortality is about *nil*. One can conceive many cases in which it would be an enormous comfort to the person about to be operated on to have an insurance policy taken out before the operation. Therefore I think the subject is one on which discussion is needed, and a new department of life assurance might possibly be opened up with benefit to the public and the offices alike.

SOME PROBLEMS CONNECTED WITH LIFE ASSURANCE.

Our association was founded to concern itself with the medical aspect of life assurance, for the increase of knowledge, and for the promotion of greater unity of opinion. How far we have succeeded in bringing about greater unity of opinion it is difficult to say. I think the subject of family history might profitably be reconsidered, especially with regard to family history of consumption. Most of us, I think, follow certain traditional rules as regards rating for family history. I throw it out as a suggestion whether in spite of family history a man of apparently good physique and sound constitution might not be sometimes taken at ordinary rates. In recent years we have had valuable additions to our methods of discovering latent tubercle. Might we not sometimes say to a proponent who objects to pay an extra on account of family predisposition to tubercle, "Are you willing to be tested as to your freedom from tubercle? If you pass the tests I shall be prepared to recommend you at ordinary rates." Only the other day I was asked to see a young man who had asked for the hand of a young lady in marriage. The father of the young lady had demurred, because he had a bad family history, and said he would only consent on condition that the young man would allow the doctor to test him for tubercle, and provided he passed the test. Unfortunately for him the test proved positive. I was called in to give an opinion as to the state of the lungs and the meaning and value of the test. I have employed the various tests for tubercle very extensively, and I may say that I consider a negative von Pirquet in an apparently healthy subject is very strong evidence of the absence of tubercle. If, however, I get a positive von Pirquet, before pronouncing definitely that the person is tuberculous, I should seek corroboration by other methods.

The life-assurance medical officer has often to deal with problems which are not purely medical. If it were simply a question of passing lives which were without flaw and of rejecting those presenting some flaw either in the family history or in the state of health or constitution, the duties would be much simpler than they are. A large number of persons proposing for insurance fall short of the ideal standard, their family history is not altogether satisfactory, or there is some element in their past history or present condition which renders them under-average lives. The principal difficulties in the life-assurance medical officer's work lie in dealing judiciously with these cases. It is here that experience is most needed.

It is useful to remember that for healthy persons entering at a certain age there is an average duration of life; at 20 approximately forty years, at 35 thirty years, at 50 twenty years, at 65 ten years. We can say, roughly, what the expectation at any age is by subtracting the age from eighty and taking two-thirds of the difference. Now in some cases we consider that there is an extra risk during the earlier years that the policy is in force, in others that the extra risk is not so much in the early years as in the later ones. For instance, where we find a family history of phthisis, what we fear is not so much the later years of the policy as the early ones, while in a person with gouty tendencies what we fear is that he will fail in the later years. Now there is a considerable difference between these two classes of risks. It is here that the kind of policy is material to our mode of rating. Where the extra risk is one affecting the early as well as the later years an extra must be imposed, whether the policy is a whole-life one or an endowment. Where, however, there are extra risks, chiefly after middle age, then an endowment at ordinary rates may sometimes be offered instead of a whole-life policy with an extra. There is an idea in some quarters that an endowment policy at ordinary rates will cover a variety of extra risks, but it will not cover the extra risk due to tuberculosis or poor physique. An endowment at ordinary rates will sometimes suit a case with gouty tendency or where obesity or some other condition makes it unlikely the life will go on to old age. When extras have been imposed they should not be removed later unless it appears that the reason for their imposition has been temporary and has passed away. Even then it is a question whether it is sound policy to remove them. Extras are calculated on the supposition that they will continue during the run of the policy. If they are to be removed when the life turns out well the office will not be sufficiently compensated for the cases that turn out badly. Larger extras would require to be imposed if it became an understood thing that they might be removed later on. Applications for removal of an extra should not be encouraged. It may be quite possible, however, at a later period to grant a new policy at ordinary rates, although originally an extra has been charged.

The medical examiner for life assurance must be thorough, but he should not be finikin. He must take a broad view of every case which comes before him. A healthy appearance, a good physique, a due proportion between height and weight, temperate and regular habits, and the absence of any signs of organic disease are of prime importance. In most cases intemperance tells its own tale to the medical examiner. The physiognomy, the tongue, the manner are of significance. An inquiry into the habits should always be carefully conducted. It is no use asking a person if he is sober and temperate and always has been so. Personally, I have never met anyone proposing for life assurance who admitted the reverse. It is very seldom that the friends who are given as references describe the proponent as other than sober and temperate. It is much more useful to find out from the proposer what kind and quantities of alcoholic drinks he takes and the time of day he takes them. An inquiry of this kind is put on the medical forms of a good many offices, but some have a sentimental objection to adding this to the list of questions. Still, whether the question is there or not, I think the medical officer will best get at the facts on which to form an opinion as to the habits of the proponent if he makes such an inquiry. The person who makes a habit of taking stimulants early in the day will generally have taken too much before bedtime.

It is a number of years now since our association drew up medical forms for use by the chief medical officer and the medical examiner respectively. I think it would be interesting to find out to what extent these forms have been adopted or have served to modify the forms in use by the offices. Our hope was that the forms we prepared would lead in time to the adoption of a general form by the offices, or at any rate would help to diminish the great diversity of forms in use at the offices. It would certainly be a great convenience if a common form were used. A great deal of time and work was devoted to the drawing-up of the forms, and I think the subject of the forms might be reconsidered. The English and Scottish Law, the National Mutual, the London and Lancashire, were among the offices which adopted our forms. Probably there have been others of which I do not know.

It is for obvious reasons not generally considered desirable that the medical examination should be made by the private medical attendant. It is the custom, however, with many companies to refer to the private medical attendant for a report as to past illnesses, habits, and state of health, except in cases where the insurance is for a small amount and the premium does not warrant the extra expense involved. This reference is in the interests of the assured as well as of the office. The report from the private medical attendant may enable one to pass a life which otherwise was doubtful, or it may reveal some material facts which modify the previous recommendation. The refusal of a medical attendant to give a report is not common, and is apt to result in a suspicion that he knows something which would prejudice his patient's life for

assurance. Only the other day a doctor who had been referred to wrote: "As a result of my experience in these reference cases I have decided in future never to give any information about private patients of mine, so you must please excuse my declining to do so." Once I remember, in a case where the policy was for a large amount, the private medical attendant when referred to wrote to say that his fee for a report was 10 guineas. I knew the doctor, and my belief is that he asked a fee which he thought would be prohibitive to avoid the difficulty of giving a report which might prejudice his patient. The company declined to pay more than the usual fee, and so the matter dropped. The impression, however, left in my mind was that there was something against the life.

The question of fees is one which we have never considered, and I think wisely so. Every medical practitioner has a right to say what his fees are to be for doing a certain amount of work, but I think we should all deprecate any attempt to introduce a scale of fees proportional to the value of the information about a person's state of health which the practitioner possesses. The practitioner must be consistent. He must not pick and choose the cases in which he is going to give information and those in which he is going to withhold it.

It would be an interesting subject for a paper to compare the mortality experience among lives passed by chief medical officers on their own examinations and those passed by the occasional medical examiner. The greater experience, and presumably the greater skill, of the chief medical officers ought to tell in favour of the companies, and especially should this be the case in affections of the heart and lungs. We are all agreed in our desire that the best available men should be selected as medical examiners. But there are sometimes plausible reasons brought forward why the life should be examined by someone whom we do not consider to be the best available man. Agents I am afraid sometimes have the idea that the best man is too particular and the life will be passed more easily by someone else. The late Dr. Thomas Harris of Manchester contributed a valuable paper on the subject of provincial medical examiners some years ago, and I think that paper or a similar one might profitably be circulated among insurance agents.

The subject of re-assurances is one which must interest all of us, and we should, I think, welcome a paper dealing with the question. It is with regard to re-assurances that unity of opinion is most desirable. It is, of course, usually a question of "take it or leave it," and that so many re-assurances, sometimes spread over many offices, are effected shows that unity of opinion must be the rule. I think it would be valuable if we could obtain the mortality experience of a number of offices as to re-assurance risks. Re-assurances are, of course, only effected for large sums, and one may get a false impression by having claims which fall in early brought before our notice, while at the same time we are not cognisant of the cases which are running a favourable course. I sometimes think that insurances for large amounts are more leniently considered than those for small.

We have devoted in the past a good deal of time to the discussion of the subject of albuminuria, and I do not know that we have arrived at any very satisfactory solution of the difficult problem which it presents. Albuminuria is one of the most common obstacles to the acceptance of a life for assurance. I am convinced that many of the lives which we refuse or postpone on account of albuminuria are assurable, but with present knowledge I do not see my way to deal with them otherwise than we do at present.

THE SUBJECT OF CLAIMS.

There are many other problems which are constantly coming before us, and I had hoped that I might have been able to touch on a number of these to-day, but I must leave these and take up in conclusion the subject of claims. It is the duty of the chief medical officer to examine the claims and see that from a medical point of view all is in order. Claims are very seldom disputed on medical grounds. The cause of death may be cirrhosis of the liver, or one of the other effects of chronic alcoholism, and inquiries made after the claim is sent in may show that the proposed was intemperate in his habits at the time the insurance was effected. But experience teaches that even in that case the company is not likely to obtain a favourable verdict should the claim be resisted and an appeal be made to legal tribunals. The results of litigation show how important it is that every care should be taken before the policy is issued to get at the facts. Sometimes the alleged cause of death seems unsatisfactory. I remember one claim which excited some suspicion at the time. A claim was sent in three months after death. The policy was on the life of a lady about 30 years of age whom I had examined myself only some few months previously and passed as first class. When the medical certificate came in the cause of death was given as "typhoid fever; duration two days." I wrote to the medical man who had given the certificate and the account he gave me was not very satisfactory. He said the first day the lady was taken ill he thought she was suffering from piles and he called in a well-known specialist who found nothing amiss. On the second day a well-known physician, whose strong point certainly was not diagnosis, was called in, who said he thought it was typhoid fever, and the same day the patient died. I was not satisfied, but I did not see how three months after death I could get additional information, and so the claim was paid.

An interesting claim came before me quite recently. The policy had been effected just 12 months before. The certificate gave the cause of death as Bright's disease and the duration one year. Everything in the medical referee's report when the assurance was effected was satisfactory, but on looking through the papers it was noticed that there was a delay of a month between the filling in of the first part of the report—namely, the information communicated by the patient—and the second part—the result of the examination—and it was stated that the delay had been due to the proponent having a cold when he first presented himself. Now the private medical attendant stated that the deceased first consulted him because albumin had been found in his urine by the medical man who examined him for assurance. There was no record of this in the report, and it appeared that the fact that albumin had been found in the urine, when the assurer first presented himself, had been suppressed. The practitioner said in explanation that he thought the albumin in the urine was the result of a chill, and he did not think it worth while to mention it, as there was none on the second occasion. The company could do nothing but pay the amount of the policy, which would never have been effected if the medical examiner had properly reported the facts.

It is now some 15 years ago that I had to do with a case of very great interest from a medical point of view, and one which ought to be put on record, as it serves to illustrate some of the problems which come before us in connexion with claims. The story is a long one and time is short, but I will endeavour to put the salient facts before you briefly and succinctly. In the month of June, 1895, an insurance was effected with one company at ordinary rates, in the month of July a similar policy was taken out with another, and in the month of September of the same year the companies were informed of the death of the assured from "galloping consumption." The person insured was an unmarried lady, aged 33 years, residing on the continent at a villa near a small town which I shall call Goluna. The medical examinations had been made by two independent medical practitioners of good standing, one from Goluna and the other from a neighbouring cathedral city. Both examiners described the lady as healthy and of robust constitution, and a life which might be accepted with confidence for assurance. Her height was stated to be 5 feet 1 inch and her weight nearly 9 stones, and her hair was a reddish blond. All the organs were sound. Her father had died at an early age, but the cause was stated to be a wound received in battle, and her mother had died shortly after from grief at her husband's death. She had a brother and a sister living, and in good health. She was most regular and temperate in her habits. It was stated that she had never suffered from any illness, and had never had to consult a medical man. The amount of the insurance in each case was £4000, and the form a 25-year endowment. The object of the assurance was to provide for relations dependent on her. Everything seemed thoroughly satisfactory for the acceptance of the life. The date of the medical examinations was June 19th. The first insurance was effected soon after that date. The second insurance, on a certificate of continued good health, was not effected until July 23rd. On July 29th a medical man from Goluna was called in for the first time to attend the lady who, he was told, was seriously ill with lung disease. Previous to this date he had never known or even heard of the existence

of the lady. He found her a very delicate-looking subject, suffering acutely from a severe pain at the base of the left lung, with high fever. On August 3rd the alarming symptoms ceased in part, only again to increase. Towards the end of August he discovered "acute pneumonia in the middle lobe of the right lung." On Sept. 12th she was seized with "general collapse of the right lung," and, in spite of all he could do, she died on Sept. 16th according to his certificate from "galloping consumption." The facts of the case were submitted to me, and I was not satisfied, for acute pneumonic phthisis, or galloping consumption, seldom suddenly attacks persons previously robust, and carries them off in seven weeks. Inquiries were made on the spot and these brought out most suspicious circumstances. The medical examiner from Goluna stated that about three or four weeks after his examination he had seen the handsome lady he had examined at the railway station, apparently starting on a journey, in the company of a gentleman at whose house he had made the examination. It also appeared from the evidence of servants that the assured had been confined to the house, and mostly to bed, for months before she died, and had been known to be suffering from lung disease for several years. While this sick person was lying ill in the house, another lady, robust and handsome, had arrived as a visitor, and it seemed probable that this lady had been substituted for the invalid and had passed the examination and been favourably reported on by the two medical men. This handsome lady unfortunately in the month of July or August came to an untimely end. She went in the company of the man in whose house the assured lived to a well-known summer resort in the mountains, and while there fell out of a fourth storey window of the hotel where she was staying and was killed, and there was buried. These facts clearly pointed to personation, and there was every reason for refusing to pay the claim, but in a foreign country where witnesses are not to be trusted it might prove very difficult to obtain evidence which would satisfy the legal tribunals in case an action was brought against the companies. It was, therefore, very important to strengthen the evidence for the companies in every possible way. There was first the personation. The lady who had passed the examination by the medical men could not be produced because she was dead. I was asked whether anything would be gained by having a post-mortem examination on the body of the assured lady. Would the practitioner who had made one of the medical reports be able to say whether this was the body of the lady he examined, or not? Would it be possible to say from a post-mortem examination whether the deceased had been the subject of old-standing disease, or not? To this I replied that I considered it to be extremely improbable that the practitioners who made the medical reports could certify by inspection that the body was not that of the lady they examined. Seeing that several weeks would have elapsed since death, I considered that the features would have been unrecognisable. I said one might find evidence of old-standing disease of lung which would be valuable as showing that the deceased would not have been in a sound state of health when the examination took place. I added, however, that one must be prepared for a condition of decomposition which would prevent the recognition of morbid changes of even old standing. While it was possible that a necropsy might furnish valuable evidence, it was also possible it might afford no help to the case at all. In the former event the case would be strengthened, while in the latter I did not think it would be damaged. It was then decided that I should go to Goluna and make the necropsy in the presence of the medical man who attended in the last illness, and of the medical man from Goluna who made the medical report at the time of the insurance. I accordingly proceeded there, and as soon as it could be arranged the examination took place. In the presence of official delegates appointed by the Government the exhumation was effected of the coffin containing the body of the deceased. It was placed on a vehicle and taken from the cemetery to the dwelling of the deceased, and placed in an outhouse. The official delegates testified that "both the wooden coffin and the zinc shell were found conformable with, and equal to, the state in which they were consigned to the grave." When the body was placed on the table the medical man who had attended in the last illness declared, as I anticipated, that he no longer recognised in the corpse the person whom he had had under his care, but he recognised the dress and clothing as those she had worn. He stated that the patient he had attended had been a little bald, but that her hair during life had been lighter in colour. The following is the report which I wrote out at the time. "Report of the autopsy on the body of ——, held 15th October, 1895. The body was that of an emaciated woman. Height 1·6 metres or 5′ 3″. (The height of the person examined was 5 feet 1 inch.) The face was swollen with emphysema, so that the features were presumably unrecognisable. There was a good deal of discolouration of the skin of the body, which, however, was otherwise in a good state of preservation, considering that 29 days had elapsed since death. The top of the scalp was bald; the hair was of a brownish colour. (The hair of the person examined was a reddish blond.) The age might have been from 35 to 45. The important pathological condition was as follows: *Both pleural cavities were completely obliterated by old adhesions*, which were particularly firm at the apices and adjoining parts. The diaphragm was very firmly adherent to both lungs. Both lungs were very extensively diseased. *Both upper lobes were occupied by large cavities which were irregular, and ramifying, and were traversed by trabeculæ of fibrous tissue.* Their walls were smooth and fibrous. In addition to these cavities there was other unmistakeable evidence of old-standing tubercular disease of the lungs, fibroid patches of consolidation, caseous tubercles, and smaller tuberculous masses. *The appearances generally of the lungs and pleuræ were consistent only with very chronic pulmonary tuberculosis.* There was nothing of importance to be noted in the condition of the other organs. It was impossible that the person on whom this autopsy was made could have had uninterruptedly good health until seven weeks before death. It was inconceivable that this person could have passed the examination of two doctors less than three months before death, and be reported by them to be pefectly sound and of good constitution." My report was translated to the two practitioners in attendance and we all three signed it. The evidence obtained from the necropsy was thus very satisfactory, and I think materially strengthened the case for the companies. I was surprised to find so little alteration in the lungs as the result of decomposition. The law's delays are great in other countries besides our own, and it was some six years before the courts gave their decision in favour of the companies. They declared that it was proved to their satisfaction that the person assured was not the person examined by the medical men. The assurance companies were deceived by the substitution of a healthy person for a person who was ill at the time of the examination, and had been previously ill for a long time, and who died a short time after the date of the policy. It was attested that the person assured had been in a state of consumption for at least three years. Thus ended this very remarkable case, a case which I think can have had very few parallels in the history of life assurance. But what has happened once may occur again, and the record of this case may be helpful in bringing to light and in defeating other attempts of a similar kind to defraud insurance companies.

THE INTERNATIONAL CONGRESS ON SCHOOL HYGIENE.—The first International Congress on School Hygiene was held at Nuremberg in 1904 and the second in London in 1907. This year the Congress will meet in Paris from August 2nd to 26th under the presidency of the Minister of Public Instruction of France, and almost all civilised countries will be represented. The object of the Congress, to quote the preliminary circular which now lies before us, "is to afford to educators, hygienists, and persons interested in the health and vigour of the coming generations an opportunity to meet, to become personally acquainted, to exchange their ideas, and to compare what is done in various countries." The subjects to be discussed will be distributed over 11 sections, which will embrace all matters bearing upon the health of school children, and in order that these subjects may be as far as possible practically illustrated there will be held in connexion with the congress at the Grand Palais des Champs Elysées a health exhibition which will remain open until August 26th. This exhibition will be free to the public. On the social side of the congress several interesting excursions have been arranged. Further particulars may be obtained from Dr. L. Dufestel, the secretary-general, 10, Boulevard Magenta, Paris, and from Dr. V. H. Friedel, the secretary of the exhibition, 41, Rue Gay-Lussac, Paris.

THE CLINICAL SIGNIFICANCE OF GASTRIC HYPERSECRETION AND ITS CONNEXION WITH LATENT DISEASE OF THE APPENDIX.[1]

BY W. SOLTAU FENWICK, M.D. LOND. & STRASBURG.

THE disorder known as "hypersecretion" is distinguished from all other functional perversions of the stomach by the fact that a secretion of gastric juice occurs in the intervals as well as during the periods of digestion, and is therefore practically continuous. The symptoms that ensue from this condition appear to have been well known to English physicians in the early part of last century, who were wont to describe them under the terms "acid" or "irritative" dyspepsia, but it was not until the publication of Reichmann's researches in 1882 that the dependence of these clinical phenomena upon a continuous secretion of gastric juice became clearly recognised. But although this writer conclusively proved the existence of what he called "gastrosuccorrhœa," considerable doubts were expressed as to the exact significance of the condition, while Schreiber and his followers contended that, owing to the stimulating influence upon the gastric mucosa of the dust, mucus, or saliva which are swallowed unconsciously during the night, even a healthy fasting stomach always contains a certain amount of gastric juice in the early morning. The experiments upon which these latter statements were based are, however, open to criticism, since the stomach was evacuated by the precarious method of syphonage, aided by pressure applied to the epigastrium and voluntary efforts at straining on the part of the patient. When it is remembered how difficult it is completely to empty the viscus of the water used for lavage and how much saliva is usually swallowed during the process, to say nothing of the gastric secretion excited by the contact of the tube with the mucosa, it is hardly a matter for wonder that a conscientious attempt to investigate a fasting stomach with a tube and syphon almost always succeeds in withdrawing a small quantity of fluid from the viscus. The employment of an evacuator, like that invented by Gentile, serves to eliminate many of these sources of error, since it permits the stomach to be completely emptied within 30 seconds, during which brief space of time it is hardly conceivable that more than a few drops of secretion could be produced. Experiments conducted under these conditions invariably show that when a healthy stomach is carefully washed out and emptied overnight and again explored in the early morning, no food or drink having been taken in the interval, it is never found to contain more than 10 cubic centimetres of a neutral or slightly acid fluid. This conclusion tallies so closely with the results obtained by Riegel and other modern investigators who have employed aspiration instead of syphonage that it may be accepted that the existence of more than 20 cubic centimetres of gastric juice in a fasting stomach is always indicative of disease. When, however, a case of true hypersecretion is examined in the same way a very different picture is presented. Thus if the stomach is washed out and emptied overnight, and no drink or food be taken in the interval, exploration on the following morning will show the organ to contain from 50 to 300 cubic centimetres of an opalescent or bile-stained fluid, which gives all the reactions of an active gastric juice, and has a total acidity varying from 40 to 70. The mere withdrawal of its contents appears to stimulate the fasting organ to fresh exertions, for if the aspiration be repeated hour by hour a similar quantity may usually be drawn off on each occasion. These simple experiments are sufficient to prove that under certain pathological conditions the stomach will continue to secrete an active juice without the usual stimulus supplied by the ingestion of food.

In the light of the foregoing facts the symptoms that usually accompany a continuous secretion of gastric juice are easily explained. In mild cases, where the stomach only contains a small amount of secretion in the early morning, very little discomfort is experienced before breakfast, and the patient often states that he is most comfortable at this period of the day; but in the more severe types of the complaint fulness, nausea, giddiness, and perhaps acid eructations ensue as soon as he gets out of bed. It is in these latter cases that the ingestion of warm milk before rising appears to provoke indigestion for the entire day, a result which may be explained by the rapid coagulation which ensues when milk becomes suddenly mixed with a large quantity of a highly acid fluid. With this exception the special symptoms of hypersecretion do not display themselves until the lapse of one or two hours after breakfast, when the proteid constituents of the meal having undergone solution by the unduly active gastric secretion and partial elimination into the duodenum, the percentage of free hydrochloric acid reaches the point at which it is able to excite extreme irritation of the gastric mucosa and probably spasm of the pyloric muscle. Consequently, between 11 and 12 o'clock, the exact time varying with the size and nature of the meal, the stomach becomes gradually inflated with gas, and pain makes itself felt in the epigastrium and right hypochondrium. If recourse be had to any form of proteid food these various symptoms usually abate for a time owing to the combination that ensues between the free hydrochloric acid and proteid base, while a drink of water will often give rise to similar relief by dilution of the hyperacid contents of the organ. It is for this reason that so many sufferers from hypersecretion insist that their dyspepsia only occurs when they require food, and refer the unpleasant sensations to hunger or term them the "pains of hunger." In like manner a large lunch is usually followed by renewed pain or discomfort from between 3 and 5 o'clock in the afternoon, which is always intensified by a cup of tea and may not subside until after dinner. But the most characteristic attack is undoubtedly that which occurs between 1 and 2 o'clock in the morning, when after much disturbed sleep the patient awakens to the fact that he has pain in his stomach, accompanied by flatulence and perhaps acidity, and in severe cases is obliged to vomit in order to obtain relief. The ejecta under these circumstances are somewhat copious, liquid, bile-stained, extremely acid, and afford the usual reactions of gastric juice containing an excess of free hydrochloric acid. When vomiting does not occur recourse to food will often allay the discomfort sufficiently to permit of further sleep. In addition to these symptoms, which are characteristic of all forms of hypersecretion, three local effects of the continuous secretion deserve attention.

In the first place, a constant excess of free hydrochloric acid in the stomach gives rise sooner or later to severe spasm of the pylorus, which makes itself evident not only by pain but also by an obstruction to the passage of food into the duodenum. This condition can alone explain the constant presence of large quantities of food in the organ in the early morning in cases where operation proves that no organic stricture existed.

In the second place, the long-continued immersion of the delicate lining membrane of the stomach in a fluid that usually contains from two to five times the normal amount of free hydrochloric acid excites a violent form of gastritis which is evident at operation by an intense congestion of the mucous membrane accompanied by interstitial hæmorrhages and erosions. These minute ulcers are apt to ooze blood and when they are exceptionally numerous hæmatemesis or melæna is usually observed. I have no hesitation is saying that in the vast majority of cases where bleeding points have been detected in the gastric mucosa or moderate hæmorrhage has occurred during life without obvious ulceration being found after death, the condition is due to chronic hypersecretion accompanied by superficial losses of tissue too minute to be detected by the naked eye. In one case of this description which I had an opportunity of examining with von Recklinghausen we were able to demonstrate by artificial injection the source of a fatal hæmorrhage which had eluded his most careful search at the necropsy. Although these hæmorrhagic erosions usually heal, they are apt, if closely set, to coalesce and in certain cases to form superficial ulcers of considerable size, which, however, may not be recognisable on digital examination of the exterior of the stomach. I have seen an ulcer of this description nearly two inches in diameter that extended as deeply as the muscular coat but which nevertheless remained undetected until the stomach had been opened.

Thirdly, the quantity of gastric secretion as well as its

[1] A paper read before the Surgical Section of the Royal Society of Medicine, March 8th, 1910.

degree of acidity varies, not only in different cases, but also at different stages of the same case. Thus, by careful treatment the pain, vomiting, and signs of food retention will often subside for many weeks, and the patient may feel comparatively comfortable; but should he indulge in green vegetables, fruit, or alcohol, contract a chill or suffer from any form of mental excitement, the various symptoms will recur with all their former intensity. In addition to these indications of remission, all cases of chronic hypersecretion are liable to sudden attacks of an extremely acute character, during which the vomiting of a hyperacid gastric juice mixed with bile or altered blood is almost incessant, much pain is experienced in the region of the stomach, and dangerous exhaustion ensues. These intercurrent attacks are usually described as a distinct variety of the complaint under the terms "intermittent" or "periodic" hypersecretion, but inasmuch as they always coexist with the chronic form of the disorder and are associated with the same organic lesions this differentiation appears to be superfluous.

Although it is well known that hypersecretion commonly accompanies chronic ulcer of the stomach, it is still the custom to regard it as a primary disorder of nervous origin and to attribute it to the same conditions that are supposed to excite simple hyperacidity. Thus, writers upon the subject lay much stress upon over-indulgence in rich and highly-spiced foods, the abuse of alcohol or tobacco, inefficient mastication, and long-continued mental strain or excitement; but since these several conditions are also held responsible for other forms of indigestion, while their mere existence does not explain why they should excite in one individual hyperacidity, in another gastritis, and in a third hypersecretion, it seems advisable to investigate the various organs of the body as well as the habits of the patient in order to discover if possible the reason for such diverse consequences of the same causes.

Until the year 1907 I had felt convinced from post-mortem evidence as well as from the more limited results afforded by operations that 88 per cent. of all cases of chronic hypersecretion were accompanied by a demonstrable lesion of the digestive organs, while in the remaining 12 per cent. no disease that appeared to have any connexion with the stomach could constantly be detected. I was, however, well acquainted with a peculiar type of hypersecretion in which death frequently occurred from appendicitis, and was in the habit of warning such patients of their special liability to that disease; but it was not until an opportunity occurred in that year of discussing the subject with W. Mayo of Rochester, U.S.A., that the cause of this appendicitis and also an explanation of the 12 per cent. of cases hitherto unaccounted for at once become apparent. That distinguished surgeon informed me that he had often discovered latent disease of the appendix in persons who seemed to require gastro-jejunostomy, and that the removal of the appendix was followed by the subsidence of the gastric symptoms provided that the alimentary tract was otherwise healthy. Furthermore, that several of his earlier cases of gastro-jejunostomy which had not materially benefited by the operation had subsequently been found to possess a diseased appendix and that when this had been removed a cure had resulted. With these facts in mind, the various surgeons who have operated for me on cases of chronic hypersecretion during the last two years have examined the appendix as well as the other important abdominal viscera, and the results obtained in 112 consecutive cases are as follows:—

Chronic ulcer of the stomach existed alone in	... ...	13 cases.
Chronic duodenal ulcer " "	... ...	46 "
Gall-stones " "	... ...	12 "
Disease of the appendix " "	... ...	22 "
Gastric and duodenal ulcers coexisted in	... ...	3 "
Duodenal ulcer and gall-stones "	... ...	3 "
Gastric ulcer and diseased appendix coexisted in	...	5 "
Duodenal " " " "	... ...	4 "
Cancer of the pylorus existed alone in	... ...	4 "
Total		112 "

Out of the 13 examples of gastric ulcer the disease occupied the cardiac portion of the viscus in 4, the central zone in 3, and the pyloric third in 6, and it is interesting to observe that one of the most severe clinical examples of hypersecretion was associated with an ulcer close to the cardiac orifice. When gall-stones constituted the sole indication of disease the calculus was often single and completely filled the gall-bladder, and only in one case was there a history of biliary colic. Hæmatemesis or melæna was noted only in 3 out of the 46 examples of duodenal ulcer, notwithstanding the fact that the average duration of the symptoms of hypersecretion prior to the operation was nine years, while in several instances they had existed more than 17 years. In only 7 of the 22 examples of diseased appendix was there a history suggestive of previous inflammation of the organ, although at operation it was invariably found to be either extensively ulcerated, thickened, adherent, dilated, or occupied by a calculus. In each of the 4 cases of cancer of the pylorus the growth was the cylinder-cell variety, which developed with extreme rapidity and caused death within seven months. There was no history indicative of former simple ulcer.

The dependence of hypersecretion upon an organic lesion of the digestive organs appears to be further corroborated by the results of treatment. Thus in almost every case where gastro-jejunostomy was performed for gastric or duodenal ulceration, and the gall-bladder and appendix were proved to be healthy, the symptoms of disordered digestion gradually disappeared, and in those instances that were carefully examined subsequently by Paterson the hypersecretion was found to have absolutely ceased. In like manner the removal of gall-stones when other parts of the digestive tract were healthy was followed by a subsidence of the secretory disorder, while appendicectomy, after an initial rise in the percentage of the hydrochloric acid, was usually attended by similar results, although convalescence was sometimes unduly prolonged.

A careful comparison of the clinical and chemical features of these various cases with the lesions found at operation appears to indicate that each division possesses certain general characters which are sufficiently distinctive to permit of a correct diagnosis being made in the majority of instances.

1. *Hypersecretion due to latent disease of the appendix, or "appendicular hypersecretion,"* is the mildest type of the complaint. As a rule, it displays an intermittent character for several years, and each fresh attack is ascribed by the patient either to a chill, mental anxiety, or to some indiscretion of diet. For a considerable time after it has attained the chronic stage the typical symptoms of a moderate hypersecretion continue to manifest themselves, but with the progress of time the paroxysmal pain is gradually replaced by discomfort and distension, which persist during the entire day. So far as my limited experience goes, the symptoms vary to a great extent according to the appendicular lesion and the concomitant state of the gastric secretion. Thus, when the appendix is in a condition of active irritation, such as ensues from ulceration of its mucous membrane, the presence of a large calculus, or extreme cystic dilatation of its lumen, pain is always a noticeable feature, and a gastric analysis shows both hyperacidity and food retention. On the other hand, if the appendix is merely thickened or adherent owing to a former attack of acute inflammation, the gastric disorder may no longer be accompanied by typical symptoms, and subacidity with an absence of free hydrochloric acid is the rule. In every instance of this latter kind that has come under my notice the patient was thin, anæmic, and obviously suffering from general neurasthenia. For several years persistent discomfort had been experienced in the upper part of the abdomen, whether the stomach contained food or not, attended by distension, flatulent eructations, nausea, want of appetite, insomnia, a foul taste in the mouth, and constipation. No form of diet or medicinal treatment had produced any permanent benefit, and it is worthy of remark that the majority of the patients stated that bicarbonate of sodium and other alkalies gave rise to pain. Cases of this description endure a miserable existence, and after consulting many different medical men they usually renounce professional advice in favour of any charlatan who promises a cure. Nevertheless, when carefully examined several signs may be found which will suggest the nature of the complaint. In every instance the stomach is moderately dilated and dislocated downwards in the abdomen, and there is marked tenderness on pressure over the entire organ. As a rule, no history can be obtained indicative of former appendicitis, but occasionally the patient will volunteer the statement that his complaint started with inflammation of the bowels, peritonitis, or

intestinal obstruction. Aspiration in the early morning usually shows that the stomach contains from 10 to 30 cubic centimetres of a weak gastric juice, mixed with much mucus, but in some instances the organ is almost empty. After a test breakfast, the amount of fluid withdrawn exceeds the normal, but its total acidity seldom exceeds 50, and free hydrochloric acid is almost invariably absent. Nervous dyspepsia is the term most commonly applied to this complaint, although in true gastric neurasthenia both secretion and motility are normal; while other diagnoses refer the symptoms to "biliousness," "gastroptosis," "hypochondriasis," or "hysteria." Sooner or later, however, these unfortunate individuals develop an acute suppurative appendicitis, and it was the frequency of this fatal complication that first drew my attention to the subject.

2. *Biliary hypersecretion* is more frequent in women than in men, and rarely develops before 30 years of age. It is most severe when the gall-bladder is occupied by a single large calculus, and for this reason, probably, is seldom preceded by colic or jaundice. The disorder displays the same tendency to intermission as the other varieties, but each individual attack often lasts for two or three months. Pain during the later stages of gastric digestion is invariably present, and is usually referred to the right hypochondrium, whence it may radiate to the back of the right chest. Vomiting may or may not occur, but acid regurgitations constitute one of the most prominent features of the case. The so-called "hunger-pain" is often very pronounced. In the early morning the stomach contains a considerable quantity of bile-stained gastric juice which possesses a comparatively high total acidity (40 to 70) and affords the usual reactions of free hydrochloric acid. After a test breakfast the total acidity varies from 70 to 110, and the percentage of free hydrochloric acid is greatly increased (0·04 to 0·1). The fact that biliary hypersecretion is often followed by ulcer of the stomach or duodenum renders its differential diagnosis from these latter complaints a matter of considerable difficulty. The chief points in favour of a primary biliary calculus are its greater frequency in women, the persistency and severity of acid regurgitations, and constant tenderness over the region of the gall-bladder.

3. *Hypersecretion due to an ulcer (or its scar) in the vicinity of the pylorus, either on its gastric or duodenal side*, is accompanied by the various symptoms of the disorder in their most characteristic form. Whatever may be the expression employed to define the digestive discomfort that occurs in other varieties, the subjects of this complaint state most emphatically that they suffer intense pain, which usually develops about two hours after a full meal and persists until the next unless relieved by vomiting. In all cases the nocturnal attacks are the most severe and are usually accompanied by vomiting of the characteristic bile-stained gastric juice. Sooner or later emesis occurs at other times of the day, emaciation sets in, and the case is exposed to such dangerous complications as hæmorrhage, tetany, and acute hypersecretion. Dilatation of the stomach is always in evidence, and if the ulcer has produced stenosis of the pylorus or duodenum peristaltic movements of the organ may be visible on inspection of the abdomen. It is in these cases that the stomach is found to contain a large amount of a hyperacid gastric juice, mixed with undigested food, in the early morning, and its contents after a test breakfast to exhibit a great increase of free hydrochloric acid.

Conclusions.

1. Hypersecretion of gastric juice invariably depends upon an organic lesion, which usually takes the form of a chronic ulcer of the stomach or duodenum, calculus in the gall-bladder, or latent disease of the appendix, although it is probable that future investigations will prove that pancreatic calculus, tubercle of the cæcum, and carcinoma of the appendix are also capable of producing it. Of the last named, one case has already come under my observation. This disorder of secretion is merely the physiological expression of a reflex irritation of the gastric glands, and is therefore not entitled to be regarded as a disease.

2. The continuous flow of a hyperacid gastric juice, whatever be its cause, always excites severe inflammation of the stomach, and is very liable to be followed by ulceration of that viscus or the duodenum. This secondary ulceration is at first superficial in character and may not be demonstrable on examination of the exterior of the stomach. Minute hæmorrhagic erosions, capable of producing alarming hæmatemesis and melæna, are usually associated with, and caused by, this abnormality of the gastric secretion.

3. Latent disease of the appendix as a result of former acute inflammation is accompanied by a peculiar form of digestive disturbance. In this condition subacidity of the gastric juice with an absence of free hydrochloric acid is the rule.

4. With the exception of hæmorrhage, all the symptoms that are regarded as pathognomonic of duodenal ulcer are in reality due to the gastric hypersecretion that always accompanies this lesion. It follows, therefore, that a severe example of hypersecretion may as a rule be safely diagnosed as a case of duodenal ulcer.

5. Contrary to the usual belief, carcinoma of the pylorus is sometimes accompanied by extremely well-marked hypersecretion. In such cases the morbid growth develops with extreme rapidity and violent hæmorrhages, due possibly to digestion of the tumour, are exceptionally frequent.

Harley-street, W.

APPENDICULAR GASTRALGIA:

OR THE APPENDIX AS A CAUSE OF GASTRIC SYMPTOMS.[1]

BY HERBERT J. PATERSON, M.B., B.C. CANTAB., F.R.C.S. ENG.,

ASSISTANT SURGEON TO THE LONDON TEMPERANCE HOSPITAL, ETC.

DURING a visit to America in the spring of 1907 I spent two weeks at the famous Mayo clinic, and while there saw Dr. W. J. Mayo operate on two patients who were supposed to be suffering from gastric or duodenal ulcer. The history and symptoms were clear, but in neither patient was any gastric lesion discovered at the operation. In one the appendix was chronically inflamed, and in the other it contained a concretion. In both cases Dr. Mayo performed appendicectomy, and stated his belief that the appendix was the cause of the gastric symptoms, which he attributed to reflex spasm of the pylorus produced by the condition of the appendix. I must confess that at the time I was somewhat sceptical, the extent of the appendicular disease did not seem to me to be adequate to account for the severity of the gastric symptoms, but I have since from my own experience been able to confirm the soundness of Dr. Mayo's judgment, although, as I shall point out later, I am doubtful as to how far pyloric spasm accounts for the symptoms observed.

That there are cases in which disease of the appendix mimics gastric disease, in some cases with very remarkable fidelity, does not admit of doubt. This does not appear to have obtained general recognition in this country,[2] although probably the condition has been recognised by some. Abroad it has been recognised for some years. Ten years ago Ewald[3] referred to such cases under the name "appendicitis larvata," and Senator used the term "atypische appendicitis" for them. In America the rôle of the appendix in the production of gastric disorder has been recognised, not only in the work of the Mayos but in the writings of Murphy, Ochsner, Deaver, and others. Personally, I have operated on 24 such cases, and I suggest that the name "appendicular gastralgia" is a convenient and descriptive one to apply to them. In the majority of them operation was undertaken for a supposed gastric or duodenal ulcer, but later experience has led me to believe that in many instances it is possible to make a correct diagnosis, and this was the case in 7 of my last 8 cases. Six of these were seen with my colleague, Dr. W. Soltau Fenwick, and in all but one we made a correct diagnosis as to the appendicular origin of the gastric symptoms.

[1] Towards the expenses of the researches referred to in this paper (which was read before the Surgical Section of the Royal Society of Medicine on March 8th) a grant was made by the Science Committee of the British Medical Association.

[2] Since this paper was written and accepted for reading Mr. Moynihan has published a paper (Brit. Med. Jour., vol. i., 1910, p. 241) which has led to an interesting discussion in the columns of that Journal.

[3] Berliner Klinische Wochenschrift, 1899, No. 24, p. 532.

Symptoms.

Pain varying in degree is the prominent symptom in these cases. Some of the patients complain of what may be described as severe continuous discomfort rather than pain, while some describe their pain as severe. In a large majority of the patients the pain follows the ingestion of food, although the interval between the taking of a meal and the onset of pain is very variable. Seven patients stated that the pain came on immediately after taking food, while in 12 instances the interval between taking food and the onset of pain varied from half an hour to three hours. In most cases the pain is referred to the epigastrium, usually to the right of the middle line. Some of my patients stated that the pain radiated downwards to the right iliac fossa, while two with less definiteness said that the pain radiated downwards. In one interesting case the pain radiated to the left iliac fossa, and at the operation the cæcum and appendix were found in the left iliac fossa. This radiation of the epigastric pain to the lower part of the abdomen is, it appears to me, a most important diagnostic symptom, and is one which, in my experience, never occurs in gastric or duodenal ulcer. Four patients gave a history of "hunger pain," 10 complained of sour eructations, and 15 suffered from vomiting in varying degree. Two patients stated that they made themselves vomit in order to gain relief from the pain.

Hæmorrhage.—Five of the patients vomited blood on one or more occasions. In the case of one patient the amount of blood brought up was said to be 50 ounces. One patient while under observation had melæna, and in another case there was a history of melæna. I think there can be little doubt that the hæmorrhage comes from the gastric mucous membrane. In one case in which I opened the stomach the whole of the mucosa was studded with numberless bleeding points. The interior of the stomach was in the condition which has been described as "weeping blood." Probably this condition of the mucosa is due to the irritation of hyperacid gastric juice or to the continual presence of gastric juice in the fasting stomach. I have seen an exactly similar condition in a case of duodenal ulcer associated with hyperchlorhydria, and I believe that in the majority of cases of duodenal ulcer the hæmorrhage comes, not from the ulcer, as is generally supposed, but from the mucous membrane of the stomach. In one of my microscopic sections of the gastric mucosa from a case of duodenal ulcer, blood can be seen escaping between the epithelial cells. I shall refer again later to this bleeding from the stomach without visible lesion, which has been called so aptly "gastrostaxis" by Dr. W. Hale White. Blood passed by the rectum probably comes from the same source, the blood, instead of, or as well as, being vomited, being passed through the duodenum into the intestine, but in one of my cases it is possible that the blood or some of it came from the ulcerated appendix, as at the operation there was a quantity of blood at the apex of the appendix. This case is perhaps one of the most striking in my series. The patient had been invalided on and off for 16 years. She had been treated more than once for gastritis with hæmatemesis. Shortly before she came under my care she had had a severe attack of hæmatemesis and was kept in bed on a liquid diet for eight weeks. At the operation she had an enormous appendix measuring 3½ inches in circumference and containing three large foul concretions. She had no symptoms referable to the appendix beyond slight tenderness in the right iliac fossa. I have seen one case of acute appendicitis associated with hæmatemesis. The onset of more acute abdominal pain and distension led the medical attendant to think that a gastric ulcer had perforated, whereas the real condition was a perforative appendicitis with general peritonitis. The patient made a good recovery.

Periodical exacerbations.—A noteworthy feature of these cases is that in many instances there is a periodical exacerbation of the symptoms. This was the case in 16 patients. None of them were quite well during the interval between the attacks but suffered from discomfort and flatulence after food. Another striking feature is the long history in a large number of the cases. The average duration of illness in my 24 cases is six years, although in one or two of them there was an interval of one or two years between the attacks. Tenderness in the epigastrium, usually to the right of the middle line, is an almost constant feature. In one-third of the cases there was tenderness over the appendix area as well as in the epigastrium.

Sex.—Of the 24 patients 20 were women, the oldest being aged 42 years and the youngest 21, the average age being 32 years. These observations may be tabulated thus:—

TABLE I.—*Analysis of Symptoms.*

Pain—	
Severe	12 cases.
Not severe	8 ,,
Constant discomfort	4 ,,
Relation of pain to ingestion of food—	
Immediately after food	7 ,,
One to three hours after food	12 ,,
Relation indefinite	5 ,,
Eructations	10 ,,
Vomiting	15 ,,
Hæmatemesis	5 ,,
Melæna	2 ,,
Tenderness over appendix	9 ,,
Exacerbations at intervals	16 ,,

TABLE II.—*Gastric Analyses in 17 Cases of Appendicular Gastralgia.*

No. of case.	Total acidity.	Total chlorides.	Free HCl.	Protein HCl.	Mineral HCl.	Volatile acids.	Duration of symptoms.
						%	
7	64	0·343	0·007	0·204	0·131	—	18 months.
8	85	0·397	0·025	0·240	0·131	—	8 years.
9	64	0·272	0·000	0·210	0·062	12·8	10 ,,
10	30	0·179	0·000	0·111	0·068	14·0	3 ,,
11	63	0·310	0·000	0·211	0·098	—	7 months.
13	70	0·329	0·015	0·226	0·088	9·6	15 ,,
14	75	0·350	0·018	0·233	0·098	8·6	10 years slight. Bad 3 months.
15	69	0·430	0·073	0·255	0·102	6·4	2 years.
16	71	0·329	0·025	0·231	0·073	8·4	13 ,,
17	68	0·321	0·022	0·226	0·073	12·0	8 ,,
18	82	0·336	0·015	0·281	0·040	4·8	3 months.
19	45	0·199	0·000	0·096	0·103	19·0	1 year.
20	79	0·361	0·003	0·259	0·098	—	13 years.
21	86	0·412	0·043	0·240	0·127	—	18 months.
22	90	0·416	0·000	0·325	0·091	10·4	?14 years.
23	61	0·288	0·007	0·201	0·080	6·8	15 ,,
24	49	0·299	0·000	0·179	0·120	5·6	8 ,,

Condition of Appendix.—Case 7: Concretion in appendix. Some adhesions. Chronic inflammation.—*Case 8:* Two marked constrictions. Chronic inflammation.—*Case 9:* Very long. Old adhesions. Kinked at acute angle.—*Case 10:* 6½ inches long. Adherent to right ovary. Much thickening of coats.—*Case 11:* Bulbous. Foul concretion. Adhesions.—*Case 13:* Bound down by old adhesions. Concretion.—*Case 14:* Dense adhesions. Appendix bulbous at tip. Concretion. Hæmorrhages in mucosa.—*Case 15:* Concretion. Area of necrosis of mucosa.—*Case 16:* Appendix thick. Mucosa in process of disintegration.—*Case 17:* Thickened. Adherent to right ovary.—*Case 18:* Appendix bulbous. Mucosa ulcerated.—*Case 19:* Long, bulbous, containing concretion. Mucosa ulcerated.—*Case 20:* Very long and thick. Concretion. Mucosa petechial in places.—*Case 21:* Bulbous. Slight adhesions. Concretion.—*Case 22:* Enormously enlarged, containing three foul concretions.—*Case 23:* Very long and contractile. Concretion at tip. Chronic inflammation.—*Case 24:* Very long and bulbous. Constriction near base.

Gastric analysis.—I have made complete gastric analyses in 17 of my cases and the results are given in Table II. A glance at the table shows that there are considerable variations in the gastric findings. In two (Nos. 15 and 21) of the cases there was marked hyperchlorhydria. In 6 cases the free HCl differed but little from the normal, while in 9 it was absent or nearly so. In these 9 cases the findings were those of chronic gastritis, except that the protein HCl was, as a rule, higher than is usual in this condition. In a majority of the cases there is marked increase of the volatile acids. In 5 of the cases from 30 to 40 cubic centimetres of gastric juice were drawn off from the stomach in the early morning ten hours after lavage and taking half a pint of milk. The digestive activity was tested in 8 of the cases and was found impaired in those cases in which free hydrochloric acid was markedly diminished or absent; in others it was normal. As a general rule, the longer the duration of the symptoms the greater the degree of gastritis shown by gastric analysis.

The operation findings.—In 15 of the cases a diagnosis of gastric or duodenal ulcer was made and the stomach and duodenum were explored through an incision above the umbilicus. No lesion of the stomach being discovered the gall-bladder was examined and was found healthy. The appendix was then sought for and as it showed evidence of disease was removed, usually through a separate incision over the right rectus but occasionally through the supra-umbilical wound prolonged downwards. In 9 of the cases a diagnosis of appendix trouble was made before the operation, and in 3 of these the stomach and duodenum were also explored to exclude the possibility of ulcer. In 16 of the cases in which the stomach was explored the duodenum was markedly dilated. Dr. Mayo told me that in these cases he very frequently observed peristaltic waves passing over the pylorus. Personally, I noted such waves in 7 only of the 18 cases in which the stomach was explored.

The condition of the appendix.—As a rule, judged by its external appearance, the appendix is not extensively diseased. The most common condition is that the appendix is bulbous, somewhat thicker than usual, and on opening it a narrowing or constriction is found near the base, the distal side of the constriction being slightly dilated and giving rise to the bulbous appearance. A concretion was found in exactly half the cases. In all of my cases microscopic examination of the appendix showed the existence of chronic inflammation. In some of the cases the disease of the appendix was more extensive than that described above. In several of the cases there were minute hæmorrhages in the mucous membrane, and in 7 cases there was a definite ulcerated area of the mucosa. In 1 case the appendix was enormously dilated, measuring 3½ inches in circumference, the mucous membrane was ulcerated, and there were three large very foul-smelling concretions in the lumen, as well as some blood-clot. This patient had had hæmatemesis as well as melæna. In 2 cases the appendix was not obviously diseased externally, but it was very long (in 1 case 6 inches) and contractile. In both these cases the lumen of the appendix was filled with fæces, and microscopical examination showed leucocytic infiltration of the mucosa.

There can be no doubt that an appendix which appears on cursory examination to present no abnormal features may be the seat of disease fraught with grave danger to its possessor. I have on a number of occasions removed an appendix which might by an onlooker be regarded as "normal" and yet have been able subsequently to demonstrate to those present the existence of disease within. Such an appendix usually presents the following features. The appendix may not be obviously larger than usual, but inspection shows that instead of being a uniform pale yellowish colour its surface is covered with a branchwork of minute blood-vessels, evidence of chronic inflammation. Careful palpation may detect that the appendicular coats are thicker than usual. On cutting the appendix open it usually contains fæces or a concretion, the mucosa is congested, sometimes petechial, or even definitely ulcerated. Microscopic examination shows the existence of chronic inflammation. However innocent looking externally, an appendix which contains a concretion, or the mucosa of which is so damaged as to permit of bacterial invasion, is one which may at any time lead to a sudden attack of appendicitis.

The Evidence that the Gastric Symptoms are due to the Appendicular Disease.

The evidence of the connexion between the appendicular disease and the gastric symptoms is threefold. In the first place there is the observation that the majority of the patients are cured by appendicectomy. If this merely meant that the pain or feeling of discomfort was relieved the evidence would not be of much value, but it implies more than this, because in addition to relief of pain those patients who had suffered from vomiting, melæna, or hæmatemesis were definitely relieved from these troubles. In other words, objective as well as subjective symptoms disappeared after appendicectomy. I have said that the majority of the patients are cured. Of my 24 patients 17 have been free from symptoms since operation, 3 have been improved, and 4 are "not cured." This does not at first sight seem very conclusive evidence as to the benefit of operation. But be it noted that the cases which have not been benefited by operation are those who have had evidence of very chronic gastritis, and that recovery should not be rapid and possibly not complete is not surprising. Two of these patients I have had in hospital again, and with rest in bed, careful dieting, and gastric lavage they have lost all their symptoms, but whether this improvement is permanent it is impossible to say as both are comparatively recent cases.

Secondly, the close physiological association between the stomach and the appendix is shown by the improvement in the gastric contents as shown by gastric analysis before and after appendicectomy. The cases in which such a comparison has been made are not many, as it is only recently that I have been making an analysis after as well as before operation. Comparing Table II. with Table III. we see that in 7 of the 9 cases in which there was marked gastritis, a gastric analysis was made after appendicectomy, and in 6 (Nos. 7, 11, 18, 22, 23, 24) of these 7 cases there was after operation a considerable quantity of free HCl present in the gastric contents. All these patients are now well. In one patient (No. 16) according to the table free HCl was present before operation and absent afterwards. In this case only one analysis was made before operation, and I am inclined to think that the analysis was incorrect. At any rate, since operation the evidence of chronic gastritis has persisted, and this is one of the most unsatisfactory cases which I have had. Two of the patients had a very marked increase of free HCl (Nos. 13 and 22) after operation, the amount of free HCl being sufficient to justify the use of the term hyperchlorhydria. This marked increase of free HCl after appendicectomy is very curious, and since I have been making analyses in my ordinary appendix cases I have found it so often that I am inclined to believe that it can hardly be accidental, but must be cause and effect. Further, I have observed that this hyperchlorhydria following appendicectomy is not permanent but gradually disappears. This is well seen in two of the cases in Table III. (Nos. 13 and 22), and I have observed the same sequence in a number of other cases in which appendicectomy has been performed during the quiescent period. Probably this temporary hyperchlorhydria is due to a protective spasm of the pylorus, Nature's attempt to protect the unhealed site of the amputation of the appendix. This observation appears to me to afford strong proof of the causal connexion between appendicular disease and gastric symptoms.

TABLE III.—*Showing Gastric Analyses after Appendicectomy in 12 Cases of Appendicular Gastralgia.*

No. of case.	Interval after operation.	Total acidity.	Total chlorides.	Free HCl.	Protein HCl.	Mineral HCl.	Volatile acids.
							%
7	3 weeks.	64	0·292	0·015	0·174	0·102	—
10	3 ,,	44	0·22	0·00	0·130	0·09	20·7
11	3 ,,	66	0·350	0·011	0·222	0·116	—
13	5 ,,	96	0·416	0·044	0·262	0·110	14·0
	4 months.	90	0·372	0·025	0·267	0·080	5·5
14	6 weeks.	72	0·336	0·018	0·269	0·058	4·8
15	6 months.	71	0·343	0·018	0·270	0·055	6·4
16	4 weeks.	56	0·321	0·00	0·186	0·135	5·6
	3 months.	44	0·295	0·00	0·183	0·109	5·2
18	1 month.	70	0·343	0·010	0·233	0·098	—
21	4 weeks.	65	0·298	0·018	0·174	0·105	—
22	1 month.	96	0·336	0·029	0·234	0·073	10·4
	3 months.	70	0·339	0·018	0·215	0·106	10·8
23	3 weeks.	63	0·336	0·022	0·186	0·128	6·8
24	3 ,,	68	0·270	0·011	0·193	0·066	8·8

Incidentally I may point out that so far as I have observed this hyperchlorhydria after appendicectomy is symptomless. One patient (No. 13) one month after appendicectomy had more than double the normal amount of free hydrochloric acid in her gastric contents, and yet immediately after the operation she was able to take milk without pain or discomfort. I kept her on milk and fish diet for three months, and the amount of free hydrochloric acid had then diminished almost to the normal. Since then she has resumed an ordinary diet and, in her own words, "she never has indigestion except when she eats really indigestible articles of food."

In this case the symptoms were very severe and simulated ulcer very closely, and her recovery has been very speedy and complete considering her condition previous to operation. Indirectly, such cases are against the view that there is such a thing as a functional hyperchlorhydria. It is not the hyperchlorhydria which gives rise to symptoms, but the organic disease which is the cause of the hyperchlorhydria.

Thirdly, for the past year I have been as it were working backwards, and cross-questioning the patients on whom I have operated for acute appendicitis as to a previous history of gastric trouble. The frequency with which a previous history of gastric symptoms can be elicited is certainly significant. A number of these patients state that for years they have suffered from what they describe as bilious attacks—that is, attacks of vomiting, with discomfort after food in the intervals between the attacks. More frequently the patients state that for a considerable time before the acute attack of appendicitis they have had to be careful as to their diet, otherwise they have suffered from indigestion. Dr. Soltau Fenwick in his paper has pointed out that before he recognised the connexion between appendicular disease and gastric symptoms he was acquainted with a peculiar type of hypersecretion in which death frequently occurred from appendicitis. Some years ago I had an interesting case of this type. I operated on a lady who was supposed to have a gastric or duodenal ulcer. On opening the abdomen I could find no lesion of the stomach or duodenum. The symptoms were clear and definite, and as the patient had hæmorrhage I thought that an ulcer must exist undiscoverable from external examination of the stomach. Accordingly I opened the stomach—a procedure of which, by the way, I now most strongly disapprove—and explored it from within. I found the whole mucous membrane in a state of extreme congestion, and studded all over with hundreds of minute bleeding points. I accordingly performed a gastro-jejunostomy, and the patient was at once relieved of her symptoms and remained perfectly well for about 18 months. She then had an attack of acute appendicitis and narrowly escaped with her life. At that time I did not recognise the association of appendicular disease with the causation of gastric symptoms, but on looking back I have little doubt that the original gastric symptoms were secondary to chronic disease of the appendix. In this particular case gastro-jejunostomy was a success in so far as it relieved the patient of her gastric symptoms; nevertheless, I am convinced that I made a mistake in that I ought not to have performed gastro-jejunostomy but to have removed the appendix.

Some years ago I saw two cases of gastric catarrh in children due to latent disease of the appendix which I did not recognise. In one of these the gastric catarrh was attributed to adenoids, and the boy was sent to me by a well-known physician to have his adenoids removed. This was done, but the boy was not a great deal better, and five months later he had a very acute attack of appendicitis. After appendicectomy he rapidly improved and has since remained well. The other case was that of a girl who for several years had been subject to attacks of gastritis without obvious cause. Later she had definite tenderness over the appendix and appendicectomy was performed. Since the operation, now six years ago, she has had no further trouble.

Failures after Gastro-jejunostomy.

I have little doubt from cases which I have seen that some of the failures after gastro-jejunostomy are due to the circumstance that gastro-jejunostomy has been performed for gastric symptoms when no gastric lesion existed, and the symptoms have been in reality due to appendicular disease. While I was at Rochester I saw Dr. Mayo resect two gastro-jejunostomies which he had performed for supposed ulcer, and which, with characteristic frankness, he admitted that he ought not to have performed, as the real trouble was proved at the second operation to be latent appendicitis, and I have heard that he has since operated on a number of cases in which a similar mistake had been made by others. I have myself resected one of my own gastro-jejunostomies and two which had been performed by other surgeons in which no lesion of the stomach existed. One cannot repeat the axiom too frequently, that no operation should be performed on a clinical or pathological diagnosis, unless such diagnosis be confirmed by the findings on the operation table. In other words, gastro-jejunostomy should never be performed except when a definite lesion of the stomach or duodenum exists, and, further, only when such lesion can be demonstrated without the necessity of opening the stomach or duodenum. If an ulcer exists which cannot be discovered without opening the stomach, it is medical treatment which is indicated, not gastro-jejunostomy. This is such a simple proposition that it should be self-evident, and yet it is one which is often disregarded, and I confess at once it is one from which in former years I have departed on two occasions, one of which is narrated above, and in both instances I discovered subsequently that I had made a mistake.

Differential Diagnosis.

The chief conditions from which appendicular gastralgia has to be distinguished are duodenal ulcer, gastric ulcer, and gall-stones. Of these, duodenal ulcer is the disease which gives rise to the greatest difficulty in the differential diagnosis. The symptoms produced by duodenal ulcer and by the cases of latent appendicitis to which I am referring are very similar in many respects. There is often the same history of recurrent attacks; both duodenal ulcer and appendicular disease may give rise to hyperchlorhydria and also to entire absence of free hydrochloric acid. Even "hunger pain" may be a symptom of appendicular disease. The points which aid us in distinguishing the two diseases appear to me to be: First, in duodenal ulcer the patient is usually free from symptoms between the attacks; in appendicular gastralgia, even between the attacks the patient suffers from flatulence and discomfort after food. Secondly, the radiation of the epigastric pain towards the lower part of the abdomen is highly suggestive, if not diagnostic, of appendicular trouble. Thirdly, the existence of tenderness over the appendix sometimes throws light on an otherwise doubtful case. Fourthly, in many cases of appendicular gastralgia the alteration of the gastric contents is not commensurate with the severity and duration of the symptoms. Let me explain what I mean by this. In a number of the cases which I have examined the gastric contents have been little altered chemically. This is not often the case in duodenal ulcer. In my experience duodenal ulcer most commonly produces, or is associated with, hyperchlorhydria, at any rate in the early stages; later there is often absence of free hydrochloric acid. Appendicular disease may apparently exist for a considerable time without a marked alteration of the amount of free hydrochloric acid. The combination of marked symptoms of duodenal or gastric ulcer with a negative gastric analysis is suggestive of chronic appendicular disease. The cases of appendicular gastralgia associated with hyperchlorhydria perhaps present the greatest difficulty in diagnosis. My impression is that hyperchlorhydria secondary to appendicular disease does not give rise to the severe pain which is in my experience usually associated with the hyperchlorhydria accompanying duodenal ulcer. Fifthly, a point on which too much stress should not be laid is that duodenal ulcer is far more common in men; appendicular gastralgia appears to be more common in women.

In gastric ulcer food, especially milk, often gives relief for the time being, the pain recurring one or two hours later. In appendicular gastralgia the onset of pain is more variable; food, even milk, usually produces pain or discomfort at once. The dorsal pain so common in gastric ulcer is not present in appendicular gastralgia. In gastric ulcer the motility of the stomach is not usually impaired unless the ulcer is near the pylorus, in which case there is usually food retention. The pain in gastric ulcer or duodenal ulcer is rarely so severe and continuous that the patient has to take to bed. In several of my cases of appendicular gastralgia, on the other hand, the patients have had to lie up on account of the continuous and exhausting character of the pain. Another point which is helpful in distinguishing appendicular gastralgia from gastric or duodenal ulcer is this:—the administration of bismuth and alkalies has little or no influence, in my experience, on the pain and discomfort due to appendicular disease. The diagnosis from gall-bladder trouble has been fully dealt with by Dr. Soltau Fenwick, and I do not propose to discuss this further.

How are the Gastric Symptoms Produced?

When we attempt to explain why appendicular disease should produce gastric symptoms we are entering into the region of speculation. I think I have brought forward evidence to show that there is a close connexion between the appendix and the stomach, but as to the exact nature of this connexion I am not prepared to dogmatise. Dr. W. J. Mayo

thinks that appendicular disease causes a protective spasm of the pylorus. Possibly this is the explanation of those cases in which there is hyperchlorhydria. As Dr. Soltau Fenwick points out in his paper, the symptoms are those of hypersecretion. Exactly how the hypersecretion is caused we are not in a position to say. All we know at present is, that in some way the appendix does affect the gastric secretion. Personally, I think that intestinal stasis rather than pyloric spasm is the condition in these cases. The symptoms may be regarded as toxic, the result of the intestinal stasis. This view seems to be supported by the frequency with which the duodenum is found markedly dilated at operation, and by the fact that in a number of the cases the stomach is dilated also. Further, as a rule the quantity of gastric contents evacuated after a test meal is greater than in healthy individuals; the percentage of volatile acids is usually increased, and in addition flatulence and constipation are prominent symptoms.

Gastrostaxis.

In recent years it is becoming gradually recognised that hæmatemesis accompanied by pain and vomiting is not pathognomonic of ulcer. Operations have been undertaken for hæmorrhage from a supposed ulcer, but no ulcer has been discovered, the source of the bleeding being a general oozing from the whole mucous membrane. To this condition Dr. Hale White[4] has given the name "gastrostaxis." Dr. Bertrand Dawson[5] has termed it "hæmorrhagic gastralgia." The older writers[6] regarded the bleeding as a form of vicarious menstruation, a hypothesis for which there appears to be no adequate justification. The perusal of hospital reports reveals a remarkable difference between the sex incidence of gastric ulcer as diagnosed clinically, and the sex incidence of gastric ulcer as proved by operation and post-mortem examination. Dr. W. P. Herringham[7] in an interesting paper has called attention to this difference and illustrated it from the records of St. Bartholomew's Hospital. There can be no doubt that many of the cases diagnosed as gastric or duodenal ulcer are not gastric or duodenal ulcer at all, but some other condition, and I suggest that it is probable that some at least of the cases of so-called gastrostaxis and many of the cases diagnosed as gastric ulcer are really cases of latent appendicular disease.

Indications for Operation.

Lastly, I wish to make my position quite clear with regard to operation. That latent appendicular disease gives rise to gastric symptoms I have not a doubt. The symptoms I have described are in the main those of hypersecretion or the so-called "acid dyspepsia." I need hardly state that I do not for a moment suggest that all cases, or even the majority of cases, of acid dyspepsia require operation, but I believe that when we have reason to believe that the gastric symptoms are due to appendicular disease, operation as a rule is advisable, provided medical treatment has failed. I hold it as a cardinal principle that in all cases of gastric disorder, except when there is evidence of some organic lesion such as carcinoma, pyloric stenosis, or hour-glass constriction, before operation be undertaken it must be premised that medical treatment has been tried and failed. And when I speak of medical treatment I mean, not a few weeks of dieting or drug taking, but a course of rest and careful dieting continued during at least six months.

It is the cases in which there are no physical or chemical signs which require careful consideration. In those cases in which, in addition to the gastric symptoms, there is definite and persistent tenderness over the appendix, operation is usually advisable. I confess that I have an old-fashioned prejudice against operating when pain is the only symptom. At the same time I recognise that there are such cases in which operation is not only justifiable but necessary. I take it we are all agreed that it is right to operate in cases of so-called "appendicular colic," when such attacks are recurrent. Surely it is equally justifiable to remove the appendix when the patient suffers from recurrent attacks of gastralgia attributable to disease of the appendix, provided medical treatment has been tried and has failed. And in this connexion I may point out again the diagnostic significance of the radiation of epigastric pain to the lower part of the abdomen. I would insist, however, that the pain must be definite, and such that it seriously interferes with the patient's enjoyment of life. The principles I laid down in my Hunterian lectures in 1906 with regard to gastric ulcer are as true to-day as when they were written, not only as regards gastric ulcer, but as regards appendicular gastralgia: "If after six weeks' complete rest on a milk diet, a further period of six weeks on a milk diet with comparative rest, followed by three months' careful dieting, the patient is not free from definite symptoms, or if after apparent cure the patient has a relapse, operation is probably in the best interests of the patient." And at the risk of repetition I may, perhaps, add what I wrote at the same time: "The performance of gastro-jejunostomy (and this is equally true of appendicectomy) in cases of vague gastric disorder, unaccompanied by definite organic lesions, cannot but lead to the discrediting of a valuable and, in suitable cases, legitimate operation."

Conclusions.

1. Appendicular disease may give rise to symptoms which closely mimic the supposed symptoms of gastric and duodenal ulcer.

2. The prominent symptom is epigastric pain or severe discomfort after food; in many cases there are sour eructations, vomiting, and even hæmatemesis and melæna.

3. The radiation of epigastric pain to the lower abdomen is very suggestive of appendicular trouble.

4. Gastric analysis reveals, in some cases hyperchlorhydria, in others a normal amount of free HCl, in others a marked diminution or absence of free HCl. As a rule there is an increase of the volatile acids, and in some cases evidence of hypersecretion.

5. Some cases of hypersecretion or acid dyspepsia and many cases of supposed gastric or duodenal ulcer are due to latent appendicular disease.

6. The evidence that the gastric symptoms are due to appendicular disease is threefold: (*a*) the majority of the patients are cured by appendicectomy; (*b*) the influence which appendicectomy has on the gastric contents; and (*c*) the frequency of a previous history of gastric symptoms in those who have an attack of acute appendicitis.

7. The symptoms are probably the result of intestinal toxæmia, due to intestinal stasis. The effect on gastric secretion is, in the early stages, possibly due to pyloric spasm, but more probably to some influence of the appendix on gastric secretion.

8. Appendicular gastralgia is apparently more common in women than in men.

9. The important lessons to be learnt from these cases are the two following. 1. That no operation should be performed on the stomach except when a definite organic lesion of the stomach or duodenum exists. Gastro-jejunostomy will not cure appendicitis. 2. That in all operations for supposed gastric or duodenal ulcer, the condition of the appendix should be carefully investigated.

Upper Wimpole-street, W.

[4] Hale White: THE LANCET, 1906, vol. ii., p. 1189.
[5] Dawson: Brit. Med. Jour., 1905, vol. ii., p. 1032.
[6] Watson's Lectures, II., p. 496.
[7] Herringham: St. Bartholomew's Hospital Reports, vol. xliv., p. 11.

SOME OF THE COMMONER FORMS OF CHRONIC RHEUMATISM (FIBROSITIS) AND THEIR TREATMENT.[1]

BY ARTHUR P. LUFF, M.D., B.SC. LOND., F.R.C.P. LOND.,
PHYSICIAN TO ST. MARY'S HOSPITAL.

THE affections that I am dealing with in this lecture are amongst the minor maladies, in that they do not affect the duration of life, but they have a very appreciable influence on the comfort and enjoyment of life, and in that respect are well worthy of more attention than they generally receive at the hands of the medical profession. They are the more or less chronic affections which are generally labelled "rheumatic," but which undoubtedly are not the sequelæ of acute rheumatism, and which are in no sense connected with that disease. Whereas acute rheumatism is more common in the first half of life, the various forms of chronic rheumatism are much more common in the second.

[1] A lecture delivered at the Medical Graduates' College and Polyclinic on March 10th, 1910.

Pathology.

In the great majority of the cases of so-called chronic rheumatism that I am about to deal with, the essential pathological change is an inflammatory hyperplasia of the white fibrous tissue in various parts of the body, to which the term "fibrositis" has been very aptly applied. The articular structures proper—synovial membrane, cartilage, and bone—are not primarily affected, but the parts implicated are the fibrous tissues of the joints, muscles, and bones, especially the aponeuroses and insertions of the muscles, fasciæ, the fibrous ligaments of the joints, and the periosteum. Such affections cause pain and stiffness in these structures, are especially apt to recur, and are commonly referred to as rheumatic or even gouty in their origin. This inflammatory hyperplasia of the fibrous tissues occurs in patches and is started by exposure to wet or cold, by injury, or by some irritant, microbic or toxic, conveyed in the blood. The inflamed and swollen fibrous tissue is tender, painful on pressure or on movement, and can frequently be felt on palpation, or is evident by the consequent elevation of the skin. This fibrositis may completely disappear, but recurrences are common, and if not suitably treated the thickened fibrous tissue remains as indurations at various parts.

The indurations may be widespread, but generally are well defined and vary in size from an eighth of an inch to one inch in diameter. They may be situated in the subcutaneous tissue, the muscles, tendons, aponeuroses, and periosteum. The pain is especially aggravated by any sudden movement of the muscles which compresses or stretches the affected fibrous tissues and the sensory nerve filaments.

Indurations and nodules.—Indurations in muscles are especially apt to develop as the result of excessive muscular work, as in some cases of writer's cramp, in muscles that are much exposed, as in those of the hand and neck, and in those where an injury has been sustained, as is frequently the case with the muscles of the back. These indurations in the muscles are exceedingly common, and are easily recognised. There is only one condition that may be mistaken for them, and that is a gumma. The latter, however, is not usually painful, and the other evidences of syphilis will prevent a mistake.

Barlow and Warner in 1881 described the development of fibrous nodules in the subcutaneous tissue as an occasional feature in the course of rheumatism in childhood and early adult life. Since then subcutaneous nodules have been recognised in adults who have been suffering from that form of chronic rheumatism secondary to acute or subacute rheumatism, and these nodules exactly correspond to those described by Barlow and Warner. As a rule they persist for a longer time than is the case with patients under the age of puberty, but usually they last for a few weeks and then gradually disappear. In young children the presence of subcutaneous nodules is usually of serious import, since they are frequently associated with cardiac disease, which is apt to be progressive in character. It is, however, now a recognised fact that subcutaneous nodules occur in many forms of so-called chronic rheumatism, which are not secondary to either acute or subacute rheumatism, and that in such cases their presence is not of the serious import which it is in the cases of young children referred to above.

Etiology.

Local fibrositis may result from several causes of which the following are the commonest:—

1. *Cold, damp, and wet.*—In a very large number of cases the only assignable cause of the fibrositis is a history of exposure to cold and wet. Sometimes the attack comes on acutely a few hours after the exposure, as in many cases of lumbago, stiff neck, intercostal "rheumatism," and other forms of so-called muscular "rheumatism." At other times stiffness gradually develops after the exposure, and passes on to the condition of chronic fibrositis generally known as chronic rheumatism. The exposure may be due to draughts, remaining in wet clothes, lying or sitting on damp ground or some cold substance, or the simple advent of damp or cold weather. Many persons are readily affected by the approach of rain, and by a lowering of the barometric pressure. Longstreth states that the painful symptoms do not correspond to rain, but to the fall of barometric pressure, and Stockman suggests that possibly the atmospheric changes may increase or lessen the lymph pressure in the body, and so increase or lessen the tension in the affected fibrous tissues. A very common cause of lumbago from exposure to a local draught is sitting on a draughty privy or water-closet; this, no doubt, accounts for the prevalence of that affection in rural districts, combined with the constant strain of the lumbar muscles amongst so many agricultural labourers.

2. *Extremes of heat and cold.*—Sudden and considerable variations in temperature constitute by no means an uncommon cause of a generalised fibrositis which takes the form of so-called "muscular rheumatism," following on the resulting chill.

3. *Local injuries.*—These are responsible for a large number of cases of local fibrositis, so-called "local rheumatism." Traumatic fibrositis is a definite form and is induced by sudden and severe strain on tendinous and ligamentous structures. Such a form may persist for a lengthened period, for whereas the slighter forms of muscular fibrositis, such as "stiff neck" and mild forms of lumbago, are usually of brief duration, that which affects the tendinous and ligamentous structures may persist for weeks and even months. Golf produces a number of such injuries, the fibrous tissues of the muscles and their attachments to the arms and back being specially affected in this game.

4. *Absorption of irritating toxins from the alimentary tract.*—It has long been recognised that disorders of the alimentary tract may give rise to "rheumatic" pains. Oral sepsis is undoubtedly responsible for the development of some forms of chronic rheumatism. The aching in the joints and the lumbar region that occasionally occurs the day after a lengthy dinner, especially if several wines have been indulged in, is due to irritation of the fibrous tissues by the toxins absorbed from the intestinal tract and which have been produced there by abnormal fermentation. This pain, whether in the joints or the lumbar region, which follows excessive indulgence at the table is generally attributed to gout, and, as a rule, the champagne, claret, or port is blamed for it. I am convinced, however, that this articular or muscular pain has, in the great majority of cases, no relation whatever to gout, and that it is due to a self-generated systemic poison owing to the inability of the gastro-intestinal tract to deal properly with the various articles introduced into it.

5. *Tonsillitis and pharyngitis.*—The aching pains that occur in various parts of the body in connexion with these affections are well known and are doubtless due to toxic absorption and consequent irritation of the fibrous tissues.

6. *Influenza.*—Many individuals are personally acquainted with the aches and even severe pains in the muscles, joints, and bones which accompany this disease. These are in all probability due to the fibrositis set up by the specific microbe or its toxin. It is not uncommon to find fibrous nodules and thickenings left as sequelæ of this disease.

7. *Febricula.*—A "feverish cold" is generally accompanied by aching pains in the muscles, joints, and bones. The attack, which is sometimes described as a "rheumatic cold" or an "influenzal cold," is microbic in its origin, and the pains are no doubt due to irritation of the fibrous tissues by the microbe or its toxin.

Various Forms of Fibrositis.

Muscular rheumatism.—This affection is always a fibrositis. Any of the muscles may be affected. Affection of the muscles of the lumbar region constitutes one of the forms of lumbago; affection of the muscles of the neck constitutes stiff neck; affection of the deltoid muscle constitutes "deltoid rheumatism"; affection of the intercostal muscles constitutes "intercostal rheumatism."

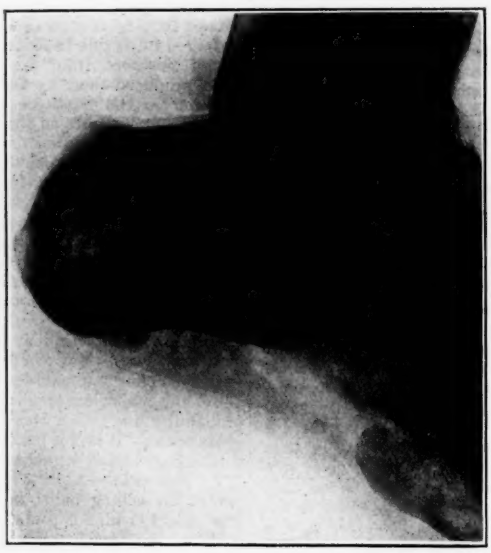
Muscular fibrositis of the shoulder and upper arm muscles is at times a very distressing malady, and so severe is the pain in the affected muscles that any attempt at passive movement causes an involuntary contraction in them, which contraction in its turn considerably augments the pain. The result is that under such conditions the shoulder-joint appears to be fixed and gives the impression of the presence of firm adhesions within the joint. It is, in my experience, fairly common to meet with such cases of muscular fibrositis which simulate a fixation of the joints, and in the present days of rapid motoring, with consequent exposure to draught, such cases are becoming more and more frequent. Motorists who ride in the back seats of an open car provided with a wind shield are, if insufficiently clad, especially liable to such attacks of fibrositis, owing to the powerful back draught to

which the back of the neck and the shoulders are exposed. In some of these cases of brachial fibrositis the interference with sleep on account of a difficulty of securing an easy posture in bed, as well as the pain produced by each movement of the arm, are extremely trying to the patient.

In severe cases of brachial fibrositis the inflammatory condition may spread to the adjacent nerve sheaths, and so cause a secondary brachial neuritis. It is not uncommon for the tendinous attachments of the muscles to be especially affected, and I have seen several cases in which the fibrositis has been limited to the insertion of the deltoid, so that the pain has been entirely confined to that locality.

Lumbago.—This is a very typical form of fibrositis. It may be an affection of the fibrous elements of the lumbar muscles, but more commonly it starts as a localised affection of the insertions of the muscles in the vicinity of one or both of the sacro-iliac joints. It spreads by continuity of the fibrous tissue, as is manifested by its affecting the tendinous attachments of the neighbouring muscles, by its affecting the sacro-iliac joint itself, and by its often spreading through the joint and reaching the sheath of the sciatic nerve. This explains the very frequent association of some degree of sciatica with an attack of lumbago.

The production of the pain of lumbago is usually sudden, the patient frequently ascribing it to a sudden strain or wrick, especially on rising in the morning; but although the production of the pain is generally sudden, yet the condition on which it depends has been gradually developed.



Dupuytren's contraction.—This is a localised fibrositis caused by habitual postural use of the hand. It is frequently ascribed to gout, but, according to my experience, the condition has no connexion with that disease. Certainly, I have never seen any gouty deposits in the thickened tissues, nor is the affection commoner amongst gouty subjects.

Fibrositis of the plantar fascia.—A fairly common form of localised fibrositis is that which affects the plantar fascia. This causes pain in the sole of the foot when the weight of the body is on it, and if not arrested is liable to lead to the development of flat foot. The fibrositis is sometimes localised to the attachment of the fascia to the inner tubercle of the os calcis, and then constitutes one of the commonest forms of painful heel. If the inflammation persists at this point it is liable to cause a local periostitis and osteitis, resulting in the formation of a bony spur, which, if not removed, constitutes a permanently painful heel. The accompanying reproduction of a radiogram shows such a bony spur on the os calcis. The patient, who was a gouty individual, was sent to me on account of his chronic painful heel. I advised removal of the spur, which was done by Sir William H. Bennett, with a result that the patient was completely cured of the painful heel.

Pads upon the finger joints.—These constitute a chronic form of localised fibrositis, and have been thoroughly described by Archibald E. Garrod. They form excrescences which are almost confined to the dorsal aspects of the interphalangeal joints of the proximal row, and are only very rarely seen upon the terminal joints of the fingers. They are usually present upon the fingers of both hands, and vary in size from that of a split pea to that of the half of a hazelnut. Sometimes they are quite painless, but more often pain of various degrees of severity is complained of, especially when the fingers are flexed or if the lumps are knocked. Patients suffering from these pads generally seek medical advice under the apprehension that they are the precursors or accompaniments of rheumatoid arthritis, or that they are due to chronic gout. There does not, however, appear to be any connexion between these pads and either rheumatoid arthritis or gout. There is, however, an intimate connexion between these pads and Dupuytren's contraction of the palmar fascia, and it is fairly common to see the two conditions together.

Chronic villous synovitis.—Although, according to the strict interpretation of the term, this is not a form of fibrositis, yet it may be conveniently referred to here, as its correct treatment is similar to that of other chronic rheumatic conditions. It is a purely local condition and not a manifestation of a general disease. It usually occurs in the knee, and is characterised by crepitus or creaking on movement and by pain and tenderness on use. The crepitus during movement of the joint is frequently unpleasantly audible to the patient, and is especially caused by going up or down stairs. The capsule and the ligaments of the joint are more or less relaxed and the synovial membrane is passively congested and loose. The crepitation on movement is due to the folds of the flabby congested membrane rubbing together; in other words, it is a true creaking and not a bony grating. If further relaxation of the synovial membrane results, hernial-like projections of the synovial fringe may be produced which are apt to cause a catching or locking of the joint when it is moved. In this class of cases the fluid in the joint is generally quite normal, although, if there be great irritation, some excess of it may form. The condition is very frequently mistaken for rheumatoid arthritis, but there is no erosion of cartilages, and no eburnation of the ends of the bones, consequently bony grating can never be produced in such joints.

Treatment.

A saline aperient should always be given at the onset of an attack of acute fibrositis, and repeated as necessary. If the attack is a severe one a short confinement to bed may be necessary. In all cases of brachial fibrositis the arm should be carried in a sling and should be moved as little as possible during dressing and undressing.

Drugs.—In the treatment of the different forms of fibrositis salicylates are of little curative value, as they do not exercise the same specific action as in acute rheumatism. Aspirin is of decided use for the relief of pain in severe cases, but it should only be given with that object. It acts better than the salicylate of soda owing to the fact that it is not decomposed and absorption does not commence until it reaches the intestinal tract, where a slow liberation of its salicylic acid moiety takes place. It probably also exercises a beneficial effect in cases of abnormal intestinal fermentation. Iodide of potassium is a most valuable drug in the treatment of fibrositis. It seems to exercise a direct effect in removing the hyperplasia and serous exudation in the fibrous tissues. It should always, if possible, be given in full doses of 10 or 12 grains, and should be combined with tonics such as nux vomica or the compound glycero-phosphate syrup. If the iodide produces severe symptoms of iodism one of the organic iodine compounds may be tried. Of these I have found iodipin, in the form of tablets, extremely useful.

Fibrolysin.—This is a chemical combination of thiosinamine and sodium salicylate. It is freely soluble in water, but the solution undergoes oxidation when kept in the presence of air and light. It is therefore supplied in sealed phials, which are tinted so as to exclude the actinic rays. Thiosinamine is allyl-sulpho-urea, and was originally found to possess a peculiar action on scar tissue in causing it to swell, stretch, and become soft; a similar effect was later found to be produced by it in other cases of pathological fibrous tissue. It is but little soluble in water, but freely so in alcohol. Alcoholic injections of it, however, are very painful, an objection which is almost entirely removed by the

use of it in the form of fibrolysin. It must be administered by intramuscular, subcutaneous, or intravenous injection, as it is inactive when taken by the mouth.

The method of injection that I invariably employ is into the deep subcutaneous tissues of the upper arm, each arm being injected alternately. In my experience there is no necessity to inject it at the site of the fibrositis or scar tissue. The injections should be made under strict antiseptic precautions, and when so done they seldom cause anything more than a slight temporary local pain. It is necessary to give from 30 to 40 injections in all, and they should be administered on alternate days. After 20 injections have been given movements and massage of the affected fibrous tissues should be commenced, as it is at this stage that the thickened tissues usually begin to soften and are then likely to stretch if movements and massage are employed. It is in my experience essential that the injections of the fibrolysin should be followed by massage and movements of the affected parts.

I have employed fibrolysin in several cases of thickening and contraction of fibrous tissues associated with different forms of fibrositis and arthritis, and also in several cases of Dupuytren's contraction of the palmar fascia. In some of the cases no benefit resulted, but in the majority good results were obtained; whilst in several of the cases of stiffened and distorted joints the results were remarkably good, so that the joints, which were previously for all practical purposes useless, had good movements restored and became in most of the cases freely mobile. In the majority of the cases of Dupuytren's contraction the thickening of the fascia and the consequent deformities entirely disappeared. Roughly speaking, in about one-third of the cases fibrolysin failed, and in about two-thirds was more or less successful. I am therefore of opinion that in properly selected cases fibrolysin is a very useful drug to employ, but it is essential that in cases of stiffened and distorted joints it should not be employed while any active mischief is proceeding within the joints. I am unable to offer any definite opinion as to the permanency of the good results in the successful cases, but so far I have not met with any relapses.

As regards the treatment of pads upon the finger-joints, fibrolysin is undoubtedly useful in promoting the softening of these pads. The only other treatment that I have found of use is the nightly inunction of a 25 per cent. iothion ointment, which causes softening and partial absorption of the thickened tissues, although I have never known them to entirely disappear under such treatment.

Formic acid and bee stinging.—Bee poison contains in addition to formic acid an alkaloidal base akin to the venoms, but it would appear that the action of bee poison in rheumatic subjects is attributable to its formic acid constituent. It is possible that if the direct stinging with bees is of any efficacy in the treatment of rheumatism, it is simply due to the action of formic acid as a counter-irritant. I have had no experience of the treatment of rheumatism by means of bee stings, but a few years ago I gave an extensive trial to the treatment of several forms of chronic rheumatism by means of formic acid administered internally. The results, however, were so discouraging, and compared so unfavourably with the results obtained by other methods of treatment, that I have completely abandoned the use of formic acid.

External applications.—In the early stages of an acute fibrositis hot fomentations are useful. Afterwards one of the best external applications in my experience is a mixture of equal parts of chloral hydrate, camphor, and menthol. These three substances form a liquid when well rubbed together. This liquid should be painted over the painful area, and then be gently rubbed in with the fingers. Some patients find the cold sensation produced by the menthol objectionable; in such cases the menthol may be omitted and equal parts of chloral hydrate and camphor employed, which also form a liquid when rubbed together. Another useful external application is to paint the painful area with tincture of iodine and then to apply a hot linseed poultice or a very hot fomentation. The heat converts the iodine into vapour, which exercises an anodyne effect and, probably by absorption, directly acts on the affected fibrous tissues. In the later stages the aconite, belladonna, and chloroform liniment applied on lint is frequently most beneficial. In cases of a very localised fibrositis counter-irritation is sometimes of great use, especially in the form of the thermo-cautery.

Heat and electricity.—Rest of the affected parts and diaphoresis are two of the most important procedures in the treatment of rheumatic fibrositis; diaphoresis is especially beneficial at the onset of an attack. Heat is of the greatest use in the treatment of these cases, and if employed early will frequently abort an attack. Heat dilates the peripheral vessels, lowers blood pressure, causes diaphoresis, and relieves pain. If heat is to be applied to the entire body the electric light cabinet bath is the most convenient and most useful form. I regard the combination of the heat and light rays as most useful and as being far superior in their effects to the employment of dark heat.

In strictly localised forms of fibrositis, and especially in cases of lumbago and chronic villous synovitis of the knees, the most effective form of local treatment that I am acquainted with is the employment of superheated air followed by ionisation (cataphoresis) of the affected joint or part. I have employed this method of treatment in some hundreds of cases and with the most satisfactory results. In cases of affected joints I always order the employment of the superheated air cylinder, and in cases of lumbago either the entire body electric light bath or the application of superheated air locally by one of the forms of apparatus that have been devised for the purpose. The application of the superheated air lasts for 15 to 20 minutes, and is immediately followed by ionisation lasting from 10 to 15 minutes.

In chronic joint cases and in chronic cases of lumbago I always order the employment for ionisation of a 2 per cent. solution of iodide of lithium and direct that the negative ion (the iodine) should be driven into the affected tissues. In cases of acute lumbago ionisation should be done with a 2 per cent. solution of salicylate of sodium at the first sitting or two, in order to produce immediate relief of the severe pain. The salicyl ion is introduced into the painful region, and it is remarkable how rapidly it will relieve the pain, just as salicylic ionisation rapidly relieves the pain of most cases of severe neuralgia and some forms of neuritis. I have found this method of treatment with superheated air and ionisation of the greatest value, and it has a very remarkable effect in causing the absorption of thickened fibrous tissues.

In the later stages of a muscular fibrositis a rapidly interrupted faradic current is beneficial, but it should be so weak as not to cause any muscular contraction.

Massage and exercises.—Massage is very useful in the later stages, but it should not be employed until it causes no pain. The manipulations should be very gentle at first, so as to promote removal of exudation and to relieve the tension. Afterwards more vigorous massage is most efficacious in dispersing the indurations and fibrous thickenings, and in removing the stiffness of the affected part.

During the very painful stage of muscular rheumatism as complete rest as possible of the affected muscles must be enforced, but later on exercises of the muscles are of great benefit. Either light dumb-bells or Indian clubs of from one to two pounds in weight should be employed, and such movements are to be performed as will bring the affected muscles into action. The exercises should be performed on rising in the morning and should not occupy more than from 10 to 15 minutes. After the exercises a cold or tepid bath should be taken and the skin be briskly rubbed with a rough towel.

Diet.—Unlike gout, no special dieting is required in these affections. Moderation should be the keynote of all prone to the various forms of fibrositis, and especially should they avoid foods which their experience has taught them to be apt to produce gastro-intestinal fermentation. It has become of late years a fashionable craze to attribute many of these forms of "chronic rheumatism" to uric acid, but I am firmly convinced that that harmless by-product of the human economy plays no part whatever in the development of the various forms of chronic rheumatism or fibrositis.

Underclothing.—With regard to the underclothing that should be worn by rheumatic individuals I must confess that I am a convert to the view that porous linen underwear is the most suitable. It allows of the free evaporation of perspiration and so prevents a more or less sodden garment from remaining in contact with the skin, which so frequently happens with those who wear woollen underclothing. I am convinced that in the latter case such sodden garments are a frequent cause of many of the forms of chronic rheumatism. Some individuals find that in winter linen underwear is too cold, and in such cases a thin silk vest may be worn over the linen. This will be found to constitute a thoroughly warm, comfortable, and safe form of underwear.

Queen Anne-street, W.

A CASE OF ENTERIC INTUSSUSCEPTION WITH HENOCH'S PURPURA;

EXCISION; INTESTINAL DRAINAGE FOLLOWED BY END-TO-END UNION; RECOVERY.

BY F. W. COLLINSON, M.D. EDIN., M.R.C.P. LOND., F.R.C.S. EDIN.,

HONORARY MEDICAL OFFICER TO THE PRESTON ROYAL INFIRMARY.

THE combination of Henoch's purpura and the associated crises from intestinal effusions, and the often very serious presence of intussusception, has recently called forth much attention. The almost impossible task of certain diagnosis as to the presence or absence of the intussusception was clearly set forth by Dr. G. A. Sutherland in his paper read before the Medical Section of the Royal Society of Medicine on June 22nd, 1909, which was reported in THE LANCET of the same week. The interest of the combination in the following case, but mainly the successful result of the treatment by excision of the intussusception, with intestinal drainage for 96 hours by means of Paul's tubes, followed by end-to-end anastomosis, is my excuse for this report.

On Sunday, Sept. 22nd, 1907, at 6.30 P.M., Dr. T. H. C. Derham called me to see a boy, aged 4 years, who was suffering from severe abdominal pain and distension, with persistent vomiting and obstruction. The family history was good, and the boy, with the exception of early children's complaints, had been in good health, with regular intestinal action and freedom from any abdominal pain until this illness. On the previous Friday week he complained of pains in his legs, and two days later he was driven about 20 miles in an open conveyance with his legs uncovered, and his parents noticed at night that they were swollen and discoloured and that the next day there was a purpuric rash upon them. On the Tuesday and Wednesday he had abdominal pains and vomited several times, but the bowels acted regularly. The abdominal pains continued but were less severe, and he got up, but this was followed by a second purpuric rash on the legs. On Thursday, Sept. 19th, he appeared to be fairly well and was hungry, and they unfortunately gave him currant cakes and a "Goosnargh cake," which is made of sugar and butter with a little flour, a local delicacy requiring an ostrich-like power of digestion! He quickly vomited, and continued to do so up to the first operation, and also had abdominal pains. On the Saturday the vomit was yellow, but he appeared rather easier.

On Sunday at 6.30 P.M. I first saw the boy, when he was pale and cried out periodically from abdominal pains. The temperature was normal, pulse 132, tongue dry, breath with fæcal odour, vomit like duodenal fluid, and the abdomen was greatly distended and intestinal movements were apparent. Rectally only a pelvic fulness was noticed and an entire absence of any trace of blood; the latter was absent throughout the entire attack. Having been removed to the Preston Infirmary, at 8 P.M. he was wrapped in cotton-wool and placed on hot-water bottles, and his abdomen was opened below the umbilicus to the right of the middle line. Some clear ascitic fluid escaped, and the small intestines were found congested and much dilated, but I did not observe any hæmorrhagic patches. A firm long tumour was felt impacted in the pelvis, but soon delivered outside, and found to be an enteric intussusception 8 inches in length and ulcerated at its neck, and reduction was seen to be impossible. The critical condition of the boy with the great intestinal distension and fæcal toxæmia demanded some ready method of intestinal drainage. The tumour was quickly excised, and Paul's drainage-tubes were tied into the ends of the gut and the abdominal wound was closed around them. The bowel contents began rapidly to flow from both ends, especially from the upper gut, until between two and three pints had escaped during the first 24 hours. The vomiting ceased at the operation but rectal saline injections were not retained. On the next day and onwards he was able to take liquid nourishment, and every four hours pancreatised milk was poured into the lower section of the bowel through the Paul's tube. His pulse was 160 after the operation but soon came down to 132. On the Wednesday he was fairly well and demanded solid food, and the abdomen was quite flat. Fearing that he would lose ground and the skin excoriate, if the tubes were allowed to separate, it was thought best to attempt anastomosis without delay.

Ninety-six hours after the first operation the abdominal wound was reopened; the Paul's tubes were just separating. Two inches were excised from each end of the gut and end-to-end suture was done with celluloid thread, the operation being facilitated by the convenience of Carless's forceps. When stitching up the abdominal incision the bloodlessness of the edges was very apparent and more was removed before suturing. The operation occupied 45 minutes. The pulse was 160 and shock was evident, but albumin water was given at once and strychnine and digitalis hypodermically. The bowels were moved in six hours and the general progress was steady, but the edges of the wound sloughed, requiring frequent dressing. The boy went home on Nov. 14th wearing an abdominal belt and looking well and bright. Since then he has grown normally and is in good health and has not had any abdominal trouble.

The slightness of the purpura, at least externally, and the absence of blood and mucus in the motions might throw doubt upon a diagnosis of Henoch's purpura, nevertheless I think that Dr. Derham was justified in thinking that the symptoms, at least up to the Thursday, were due to the purpura, and the apparent improvement in the two following days made him judge that even then this disease would explain all. Dr. Sutherland, in the paper referred to above, when commenting upon a case reported by Dr. F. de Havilland Hall where blood and mucus were absent, still thought that his diagnosis of Henoch's purpura was justified. Certainly in the case before us we did not observe any hæmorrhagic effusions into the bowel walls; this might be due to hurry and my imperfect knowledge of the disease and its manifestations. There were not any sloughing patches in the skin, but there was a decided tendency for the edges of the abdominal wound to slough.

The fact that effusion into the intestinal walls, which occurs in Henoch's purpura, may give rise to all the signs and symptoms of intussusception, even including the presence of a palpable tumour, should always be remembered when examining cases of purpura having abdominal symptoms. The marked diminution of the earlier symptoms upon the Thursday and the return of the appetite exclude the possibility of the intussusception having been present up to that time; also the appearance of the intussusception, remembering that it was enteric, did not make one think that it could be more than of 80 to 90 hours' duration.

Mr. Henry Rutherfurd[1] describes a case of ileo-cæcal intussusception in which he performed lateral anastomosis between the ileum and transverse colon without interfering with the intussusception, which he found impossible to reduce completely. He there discusses the various methods of surgical interference and advocates the method he adopted. Not having tried the method, one is chary of criticising it, but the leaving of a portion of gut in the abdominal cavity, which already may be gangrenous or soon become so, does not appeal to one's surgical instincts. This method, even if good in the ileo-cæcal variety, would be scarcely advisable with the enteric variety.

Up to recent times excision of the intussusception with end-to-end union has been very fatal. In the case under consideration it appeared fairly certain that any treatment which did not relieve quickly and easily the great distension of the bowel, with the consequent toxæmia and the severe pressure upon the thoracic organs caused by the upward displacement of the diaphragm, would be fraught with great danger to the patient. The excision of the intussusception removed a possible source of infection, and the use of Paul's tubes provided excellently for the drainage. A slight advantage was the ability to feed the patient with pancreatised milk through the lower portion of the bowel. Certainly any attempt to do an immediate end-to-end suturing where there is much distension, and especially where there is any purpura, must be fatal. Another suggestion, to make an enterostomy opening above the intussusception, leaving the tumour, appears unsatisfactory compared to the cleanly excision of it with free drainage by Paul's tubes.

Appreciating the danger of marasmus and skin infection, the earliest opportunity was taken advantage of for making complete the intestinal tube. There is always an objection to a double operation, but the first one here was short

[1] The British Journal of Children's Diseases, September, 1909.

and simple, a very slight tax upon the vitality, and only intended to give relief to the fatal conditions, and could be done even in very imperfect surgical surroundings. The second operation could be arranged for with more care, and, if necessary, the patient could be removed to more perfect surgical surroundings.

I am indebted to Dr. R. Makins, senior house surgeon, for his assistance, and to Sister Eggins for her keen and able nursing of the case.

Preston.

THE TREATMENT OF VOMITING.

BY J. SNOWMAN, M.D. BRUX., M.R.C.P. LOND.

VOMITING is one of those conditions which often demand unequivocal symptomatic treatment, contrary though this course may be to the canons of rational therapeutics. Its origin may be due to such grave disturbances as intestinal obstruction or cerebral tumour; but short of this, the less menacing causes can act long enough to produce serious malnutrition and considerable wasting. The vomiting in chronic renal disease, on the one hand, and the characteristic emesis pathognomonic of gastric dilatation, on the other, interfere so gravely with nutrition that attention must be riveted on the easiest method of subduing the symptom, which, if allowed to proceed unchecked, may compromise life itself. When vomiting has been at all persistent the state of nutrition rapidly deteriorates, and this necessitates the simultaneous institution of means to ensure an efficient assimilation of food and a restoration of the nutritive balance to the normal.

There is one piece of mechanism common to all the numerous pathological activities which may excite vomiting. This mechanism concerns certain molecular changes in the nerve cells of a vomiting centre, situated in the depths of the medulla in the neighbourhood of the calamus scriptorius. This centre is liable to be disturbed by impulses streaming in along nerve fibres from ubiquitous directions. The impulse may start in the higher cerebral centres; thus vomiting may follow disagreeable visual or olfactory sensations. Irritation of the uterus, kidney, liver, &c., or the stimulus of sudden severe pain may also be responsible for vomiting. There are, however, certain areas of the body wherein irritation provokes the vomiting centre with especial facility. The gastric mucous membrane is obviously such an area, but the distribution of the glosso-pharyngeal nerve constitutes an almost equally fertile source of such vomiting impulses. But though the vomiting centre may be set into action from such an extensive periphery, the stomach always remains the predominant agent in the causation of this symptom, even when not the originating source of offence. The centre, being once excited by peripheral irritation, remains in a state of hyper-susceptibility, and nothing is so likely to throw it into action as those slight gastric derangements which under normal circumstances would pass off with impunity. The practical physician will therefore never neglect the stomach in his scheme of treatment of any individual case of vomiting.

The stomach assumes an important position in the therapeutics of vomiting, because it is through the stomach that the nutritive ravages wrought by the vomiting must be repaired. This organ must enter into one's calculations when treating the reflex vomiting of pregnancy, or of meningitis, just as it does when treating the direct vomiting of gastric ulcer or carcinoma. A little thought may well raise a doubt as to the accuracy of the assumption which labels so many instances of vomiting with the characters of reflex acts. Take the case of the business man who returns to his office from a rapid lunch to find a piece of serious and disquieting news awaiting him. He becomes thoroughly upset and very soon vomits his meal. This untoward proceeding is usually explained to be the result of cerebral emotion setting up impulses which irritate the vomiting centre. But a more feasible interpretation would be that the cerebral emotion has inhibited the nervous energy requisite for the digestive processes within the stomach; a sudden and severe disturbance has interrupted the orderly progress of digestion, the meal itself becomes a source of irritation to the gastric mucous membrane, and it is this circumstance which starts the reflex that terminates in vomiting. Thus, the vomiting remains a reflex act, but the peripheral impulse proceeds not from the cerebrum but from the mucous membrane of the stomach.

This is a consideration which must obviously influence the treatment of vomiting, because it suggests that the stomach may indeed be playing an important part even in those cases where the vomiting is assumed not to be of a gastric origin. When we come to the question of treatment we also see that it is not practicable to limit one's therapeutic endeavours to dealing with causes. Thus certain forms of vomiting which are definitely of central nerve origin are recommended to be treated with drugs which act as sedatives to the peripheral nerves in the stomach. The vomiting associated, for instance, with cerebral tumour, Ménière's disease, or sea sickness is therefore usually treated with such drugs as cocaine, menthol, or chloretone. This again illustrates the value of taking the stomach into account, whatever be the ultimate cause of the rejection of its contents. From the point of view of rational therapeutics this course may be empirical, but clinically it is often crowned with success.

But nevertheless it is desirable, even when dealing clinically with the subject of vomiting, to be safeguarded by a working knowledge of the cause of the symptom in any individual case. Every case of vomiting which comes under treatment will fall into one of three groups which may be distinguished as (1) local, (2) toxic, and (3) reflex.

The *first group* includes all those instances where the vomiting is explained by local conditions within the stomach. There may be deficient functional activity as in acute fevers, or a catarrhal condition may prevent the efficient discharge of the digestive process. The catarrh may be primary, or it may be associated with gastric ulcer or cancer; it may be a symptom of alcoholism, it may be incidental to phthisis, or to disease of the heart or liver.

The *second group* comprises all those morbid states wherein a toxæmia is either known to exist or assumed to exist. The toxic substances of the blood directly irritate the vomiting centre in these cases. This is clearly seen in the vomiting which often accompanies the invasion of acute specific fevers; it is evident also in post-anæsthetic vomiting, in Addison's disease, and in the cyclical or pernicious vomiting of children; in actual practice, however, its most frequent occurrence is in renal disease.

The *third, or reflex, group* embraces the vomiting of cerebral origin, of labyrinthine disease, of the pain of visceral disease generally, including such conditions as hernia and intestinal obstruction. The vomiting of pregnancy should probably come into this group. Closely allied to this group is the vomiting of pertussis and other diseases where there is cough of a paroxysmal character, particularly bronchiectasis. The vomiting centre is situated in close proximity to the respiratory centre, and irritation of the latter is very liable to extend to the former and cause vomiting.

In the treatment of vomiting the first point to determine is, whether it is an incidental symptom of an acute illness or whether it is a cardinal feature of some chronic disease. The routine of treatment in the two cases is quite different. There may be troublesome vomiting even on an exclusive milk diet in typhoid fever or in pneumonia; but this symptom is not of the essence of the disease, and we are confident that an abatement in the severity of the primary trouble will witness a cessation of the vomiting. It is therefore quite permissible to resort for a few days to what practically amounts to starvation until the stomach recovers some functional power, as indicated by the assertion of an appetite. This method of starvation is often disguised as feeding by means of veal tea, chicken tea, or various meat extract preparations. Obviously this can only be a very temporary measure, and if it is not successful in a disease like typhoid fever the nutrition of the patient becomes seriously compromised. In chronic diseases it is quite clear that this method has no vogue at all.

It is quite possible, however, to manage the dietetic treatment of the vomiting of acute illnesses by less drastic measures than virtual starvation. The desideratum is to make a strict milk diet easily tolerated. Dilution and peptonisation are calculated to achieve this, but the former process necessarily detracts from its nutritive value, and the unpalatability of peptonised milk is a serious disadvantage. In these cases it

is much better to feed with one of the preparations of dry casein, many of which have been introduced to the profession from time to time. In acute febrile conditions with vomiting I order the milk to be diluted with twice its amount of water, and sanatogen to be added to the extent of fifteen grains for each ounce of water used; thus if six ounces of milk and water constitute one feed, 60 grains of sanatogen would be added to it. This brings the nutritive value of the mixture up to the pure milk standard, and it avoids the disadvantage and trouble of peptonisation. Anti-emetic drugs, to be mentioned later on, are of little value in this condition, because they are themselves promptly vomited. But casein in the dry pulverised form is so exquisitely bland that even the functionless stomach of the acute febrile state is equal to its digestion. The fine subdivision in which the casein exists contrasts strikingly with the tough curds in which it is precipitated from pure milk. This explains its easy toleration when added to well diluted milk.

Occasionally one comes across cases wherein this method fails. This is generally due to the intolerance of even diluted milk; and in these instances the use of nutrient enemata appears to be the proper procedure. Without discussing here the *pros* or *cons* of rectal feeding, it is interesting to point out that dried casein is the form of albumin which presents the greatest possibility of being absorbed by the rectum. Sodium-casein is assimilated to the extent of about 40 per cent., and the experiments of Seymour Sharkey in England and of Hoppe in Germany indicate that the casein as it exists in sanatogen is absorbed to the amount of 75 to 80 per cent. Personally, I do not employ this preparation as a nutrient enema, because I find that if it cannot be retained by the stomach when given with diluted milk there is still every prospect of it being tolerated when administered merely mixed with water. This constitutes a decided advantage over feeding with hot water or such liquids which have a suggestion of nutriment about them, but which really possess little or nothing of this virtue, so essential for the acute invalid.

When the habit of vomiting is once overcome in febrile disease by this method, the tolerance of the stomach for an appropriate diet becomes rapidly established. I may refer here to a severe case of vomiting recently under my care which arose from cerebral concussion. The patient, a young man, aged 25 years, sustained a fall of several feet down the hold of a ship; the actual injuries he sustained were trifling, but his main symptom subsequently was uncontrollable vomiting. He was treated in hospital by absolute rest in bed, and all the usual methods for allaying vomiting were invoked. After three weeks of this treatment his condition was indeed pitiable—a frail, wasted, nervous wreck of his former self. In this state he left the hospital and came under my charge. I ordered an ice-bag to the head, a mustard leaf to the epigastrium, absolute recumbency in bed, and small feeds of sanatogen with water. This diet was continued for three days, but the vomiting had completely ceased on the second day. Then milk was added to the diet, and through rapid stages of feeding he advanced until, on the tenth day, he was able to cope successfully with an ordinary lunch.

The foregoing really seemed to be the type of case which should benefit from drugs acting as sedatives to the vomiting centre. But their failure in this instance, however, is no argument against the principle of their employment, but is rather a plea for accompanying their administration with scrupulous attention to the gastric element of such cases. But treatment is notoriously uncertain when the vomiting is an expression of a reflex neurosis; the vomiting of pregnancy exemplifies this to a nicety. Despite the most careful dieting and trust in the finest pharmaceutical products the wastage of whole meals in this condition is distressing to contemplate and exhausting to endure. The wisest plan under these circumstances is to secure that the nutrition of the patient does not suffer unduly, and an excellent way of effecting this is by placing reliance on preparations which are absorbed with a minimum of effort and assimilated in a maximum amount.

The only other frequent condition which compromises nutrition through vomiting in the same degree as the vomiting of pregnancy is whooping-cough. Remarkably enough, many of the drugs which have been vaunted for this disease are also recommended in the treatment of vomiting, the idea being that a drug which allays excitability of the respiratory centre may similarly influence the neighbouring vomiting centre. Dr. A. F. Voelcker, who studied 550 cases in the whooping-cough wards of the Children's Hospital, Great Ormond-street, recommends one-third of a minim of glycerine of carbolic acid with 5 grains of carbonate of bismuth when vomiting is severe.[1] Most reliance is, however, placed on a suitable dietary, which, according to this author, should consist of "iced milk, malted milk, peptonised milk, milk and soda-water, or albumen water." If these are not retained meat juice in water is very useful. The author goes on to say that "sanatogen or plasmon may be used temporarily when milk is not tolerated." But the great proteid value of these preparations renders them much superior to meat juice for the feeding of whooping-cough patients. Meat juice can only possess our confidence as a food temporarily, the casein preparations qualify for prolonged use.

These preparations obviously supply a want, and in choosing one for the treatment of vomiting attention must be paid both to its facility of absorption and its faculty of repairing the malnutrition which the vomiting has caused. One typical instance must suffice in illustration. A lady, aged 66 years, who some years previously had undergone a radical operation for cancer of the breast, began to fail in health. Slight exertion rendered her short of breath, her appetite became indifferent, she lost flesh visibly, and developed considerable anæmia. When she came under treatment her main symptoms were very defective vision, headache, and vomiting. Ophthalmoscopic examination showed that she had retinitis, and her urine revealed the presence of a large quantity of albumin and of sugar. Some of her symptoms were evidently due to chronic nephritis and others to diabetes; at any rate, she was the victim of two distinct toxæmias which seriously interfered with metabolism and threatened disaster to her general nutrition. In January, 1908, she had been under skilful treatment for some eight months; but none of her symptoms showed any improvement. The patient herself suffered most from the failing vision which seemed to be on the increase, and from the vomiting, the frequent attacks of which did at any rate not abate. The urine was loaded with albumin, the sugar amounted to 3 per cent. even on a fairly strict diet, the gait was greatly enfeebled owing to commencing neuritis, and the emaciation and general weakness were extreme. It was in this condition of disease that an endeavour was made to counteract the vomiting by administering a definite amount of proteid nutriment the absorption and assimilation of which could be relied upon.

The outlook was as unpromising as a case could be. Milk with sanatogen was vomited very frequently; this, however, seemed to be due to the fact that the taste of the preparation was unpalatable to the patient. A flavoured preparation was substituted and after a little perseverance the vomiting bouts ceased, and the patient could tolerate a fairly substantial meal with equanimity. But progress did not cease here, because with the continued use of this casein preparation a most striking improvement in the general features of the case manifested itself—an improvement which is only explicable on the assumption that despite all the toxic influences arrayed in opposition, the general metabolic activity of the body was raised to a level approaching the normal. Unfortunately, the inflammatory and exudative process in the retinæ cannot be recalled and the defect in vision remains, but it has become stationary instead of progressing as it usually does. The increase in weight has been very considerable: the rather hale and roseate aspect of the patient is a picturesque contrast to the distressing facies of profound ill health which she presented a year ago. The amount of albumin is now very small indeed, and a strict dietary suffices to remove all the sugar from the urine. There can be no question that the amelioration in this case is a result of the influence which has tended to restore the physiological balance of metabolism, and obviously the cessation of vomiting was a condition necessarily indispensable thereto.

The ordinary therapeutic measures available for the treatment of vomiting are very numerous and somewhat conflicting in their variety, a testimony to the failure which so often attends their exhibition. Nausea may be relieved occasionally, either by sips of extremely hot water or by sucking fragments of ice. This contrast is still further seen in the circumstance that sometimes a tight abdominal binder will

[1] Index of Treatment, by Hutchinson and Collier.

stop nausea, whereas at other times this unpleasant sensation yields when the clothing around the abdomen is loosened. Perfect recumbency in the horizontal position should be maintained, and such local applications to the epigastrium as sinapisms, blisters, or leeches are frequently very useful. The washing out of the stomach with weak boric lotion or alkaline solutions is an excellent method of treating the persistent vomiting in gastric dilatation or the gastric catarrh of infants.

I add a few personal experiences of the use of the routine remedies for vomiting. The favourite drug for the treatment of vomiting is bismuth in one of its various forms. This is an excellent remedy when the vomiting results from gastric irritation, but in other circumstances little is to be expected from it. The carbonate should be chosen in preference to the subnitrate, because the latter is liable to become converted in the intestine into the nitrite and produce toxic symptoms. Another disadvantage of prescribing the subnitrate is that the mixture containing it usually has bicarbonate of soda as one of the ingredients, and the interaction of these two substances may lead to the evolution of sufficient carbonic acid to force the cork out of the bottle. Cerium oxalate, which is official in the United States Pharmacopœia, probably acts in the same way as bismuth, but nothing definite is known of its pharmacology. It has acquired a reputation in the treatment of the vomiting of pregnancy, but clinical experience generally fails to confirm it.

Creosote, iodine, and carbolic acid may be grouped together as a series of drugs which allay vomiting when suitably employed. Cases of fermentative action in the stomach would appear to be beneficially influenced by their use, and the vomiting accompanying this condition abates because these drugs relieve the cause of this symptom. But it must be remembered that both creosote and carbolic acid have a local anæsthetic effect, and this may, in some measure, explain their anti-emetic virtue. The use of drop doses of tincture of iodine, well diluted in water, is a purely empirical measure which succeeds less often than it fails. The same must be said for vinum ipecacuanhæ, which is credited with success in the treatment of the vomiting of pregnancy when given in homœopathic doses. Tincture of hydrastis is another preparation which has gained special praise for the same condition. A drug still less frequently used for vomiting is orexin tannate. This is recommended for the vomiting after opium, chloroform, or other narcotics. The dose is from 5 to 12 grains and it should be given two hours before meals.

Aconite has some vogue in the treatment of vomiting, but it must be given in large doses. It then numbs the reflex centres and acts as a powerful sedative to the peripheral nerves in the gastric mucous membrane. It is one of the host of drugs suggested for the vomiting of pregnancy. Chloretone is really an effective remedy when some painful local disease, such as cancer of the stomach, is responsible for the vomiting. In doses of from 5 to 8 grains it relieves pain to a considerable degree and permits the stomach to tolerate a certain amount of food. One-third of a grain of cocaine will occasionally put a sudden stop to a bout of vomiting, and is one of the most effective remedies available for sea sickness. Hydrocyanic acid is another drug with a reputation in gastric vomiting, but if it acts it does so forthwith, and if it proves to be unsuccessful at first it is merely a waste of time to persist with it. On the other hand, in vomiting of reflex origin it is worth while to persist with bromide of potassium, and, indeed, to give it per rectum if the stomach does not tolerate it. There is another drug which may be given by the same route in the form of suppositories—and that is opium. On the whole, opium is our most valuable remedy for vomiting which is persistent and exhausting, and then it must be given in the form of a hypodermic injection of morphine. This drug acts unquestionably as a powerful sedative to the vomiting centre, and it will afford relief as definitely as it does in a paroxysm of pain. For rapid and immediate effect there is no drug to compare with it in the Pharmacopœia. This action is in striking contrast to that of the substance produced by heating morphine in sealed tubes with hydrochloric acid. This procedure deprives the morphine of one molecule of H_2O, and the resulting product is apomorphine, which is a direct irritant to the vomiting centre and therefore a powerful emetic.

Brondesbury, N.W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Pericarditis with Effusion.

AN adjourned meeting of this section was held on March 3rd, Dr. J. MITCHELL BRUCE being in the chair.

Sir JOHN BROADBENT, in continuing the discussion on Pericarditis,[1] said that to the title of the paper by Dr. Samuel West "On Pericarditis with Effusion as determined by Operation or Post-mortem Examination," the words "and on the absence of effusion as determined by operation" might well have been added. He was sure that it must have fallen to the lot of most who had had a large experience of pericarditis to have operated on cases in which effusion had been diagnosed, and to have found instead a greatly dilated heart, with or without an adherent pericardium, but no effusion. The difficulty of diagnosing between these two conditions was often very considerable. He quoted the histories of two cases to illustrate this point. Since it was now generally recognised that an extreme degree of cardiac dilatation was commonly met with in rheumatic pericarditis, more especially in children, and was frequently associated with general adherence of the pericardium to the heart, whereas effusion to any great extent was comparatively rare, mistakes in diagnosis based on rapid increase of area of the cardiac dulness were less liable to be made. He had failed to find that the shape of the area of cardiac dulness, e.g., the so-called "pear-shape" described by Sibson, of any value in determining the presence of effusion. Roteh's sign was certainly not to be relied on as diagnostic of effusion; in many instances he had found it present in cases of universally adherent pericardium in children, especially in the relapsing cases in which the dilatation of the heart was often extreme. In the experience of Sir John Broadbent effusion to any extent in rheumatic pericarditis was exceptional and rarely met with. By far the most difficult cases and those in which effusion into the pericardium was frequently missed were cases of suppurative pericarditis. They were most commonly secondary to suppuration elsewhere—e.g., an empyema—a friction rub was seldom audible throughout their course, and there were usually no specially characteristic symptoms. The absence of a friction rub and the possible explanation of the pyrexia by suppuration elsewhere might naturally fail to arouse suspicion of pus in the pericardium, and even when this was suspected the impossibility of mapping out the area of cardiac dulness when this merged into the dulness of an empyema, and the latency of the symptoms made the diagnosis a matter of considerable difficulty. When acting as medical registrar at St. Mary's Hospital in 1900 he had seen two cases which were remarkable, in that the patients were husband and wife and that they died within ten days of each other from empyema with suppurative pericarditis. Unfortunately, even in the cases in which a suppurative effusion was rightly diagnosed and an operation for its evacuation performed the prognosis was extremely unfavourable and he had not seen a case of recovery. He had had last year the satisfaction of diagnosing effusion in a case of serous pericarditis, the presence of which was confirmed by operation. On June 1st, 1909, he was asked by Mr. H. S. Collier to see a case of pericarditis in a woman, aged 46 years, who was under his care in St. Mary's Hospital for closure of an old colotomy wound. On examining the heart the apex beat was palpable in the fifth space in the vertical nipple line. A friction rub was heard at the apex and in the fourth interspace to the left of the sternum. The area of cardiac dulness extended to the mid-sternal line and to the left merged into a dull area over the left base where there

[1] This discussion was opened at a meeting of the Medical Section of the Royal Society of Medicine on Feb. 22nd, by Dr. Samuel West, with a paper entitled "Pericardial Effusion: Its Diagnosis and Treatment," which was published in THE LANCET of Feb. 26th, p. 560.

was a small pleural effusion. The temperature was 99·6° F., pulse 108, and respirations 24. On June 2nd the pericardial rub was heard at the base in the second space on both sides of the sternum as well as at the apex. On the 3rd the area of cardiac dulness extended half an inch to the right of the sternum, the friction rub had disappeared from the apex and was only faintly audible at the base. On the 4th the friction rub had entirely disappeared, the apex beat was not palpable, the heart sounds were distant and faint, and the patient was greatly distressed. The temperature was 101°, pulse 126, and respirations 26. The area of cardiac dulness when the patient was lying on her back extended one finger's breadth to the right of the sternum; to the left it merged into the dulness at the left base. On turning the patient on to her right side the area of cardiac dulness to the right of the sternum was *markedly increased*, extending rather more than two fingers' breadth to the right of the sternum. To this point he attached considerable importance, as if the dulness had been due merely to dilatation of the heart it was highly improbable that change of position could influence its area to any appreciable extent, whereas fluid in the pericardium would naturally gravitate to the lowest point. The disappearance of the apex beat and enfeeblement of the heart sounds also afforded conclusive evidence. He therefore advised aspiration of the pericardium. Mr. Collier operated under eucaine, cutting down in the fifth left space just to the left of the sternum and then inserting an aspirating needle. He drew off 30 cubic centimetres of blood-stained clear serum. The patient was greatly relieved by the operation. The next day a friction rub was audible in the second, third, and fourth interspaces to the left of the sternum; the area of cardiac dulness extended only as far as the sternum and the apex beat was just visible and palpable. She subsequently made an uninterrupted recovery, the colotomy wound was successfully closed, and she left the hospital cured and quite well on August 14th. It would appear that the removal of a comparatively small amount of fluid was sufficient to relieve symptoms and promote absorption of the remainder. He thought that effusion was more frequently met with in adults than in children and that the prognosis was more favourable. Nothing could be more unfavourable than the prognosis in the relapsing pericarditis so frequently seen in rheumatic children, in which effusion was seldom met with, but the pericardium became adherent to the dilated heart.

Dr. W. P. HERRINGHAM described a case in which he had found the pericardium after death full of air; it was believed that the condition was due to some gas-forming organism, but it was not found possible to grow any culture.

Dr. W. PASTEUR expressed the hope that physicians would acquire the habit of making use of the orthodiagraph in the bedside examination of patients. He had used a portable modification of the instrument for two years with the most encouraging results. The shadow-tracings obtained with it represent a definite advance on the best X ray photograph obtainable by any other method, if only for the reason that they represent the actual size and true relations of the shadows seen on the fluorescent screen. He was convinced that this method of examination was destined to yield reliable and important information, not only in regard to pericardial conditions but in morbid conditions within the chest generally. He had shown elsewhere that arrest of diaphragmatic action, if maintained for a sufficient time, led to massive collapse of the base of one or both lungs, and that a common feature of many different morbid states in which this massive collapse had been found was the existence of a powerful source of irritation in the vagus area on either side of the diaphragm. If, therefore, it could be shown that pericarditis inhibited diaphragmatic movement, this, by inducing massive collapse, would afford an adequate explanation of some of the physical signs occurring at the left base in cases of pericardial effusion. He showed two orthodiagrams from cases of pericardial effusion in which there was complete arrest of diaphragmatic movement. The state of the pulmonary bases had not been noted, but he felt confident that further observations would reveal the existence of massive collapse of the left base in cases of this nature.

Dr. J. PORTER PARKINSON said the difficulty of the diagnosis of pericarditis was well known, especially of those cases that came on insidiously without local pain and without friction sounds being heard. It was on that account that he wished to mention the occasional presence at the commencement of a pericardial effusion of a sign which was usually supposed to be one of late development only. He referred to signs of compression of the lower lobe of the left lung. He had come across several cases in children during the last few years where that sign preceded by some days both friction and increase of the cardiac dulness. At that period dulness and weak breath sounds (sometimes tubular in quality) and fine râles might suggest the onset of pneumonia, but the other signs do not as a rule coincide with that; the temperature was lower and the pulse-respiration ratio not altered. In those cases the inflammation of the pericardium probably began in its posterior part and there was a fairly considerable exudation before it reached the anterior part of the pericardium and a friction sound was audible. Of course, he was quite aware that those pressure signs were well known; they had been fully described by the late Dr. Sansom; his point was that they might occur before any considerable increase of the cardiac dulness had come on, and so might suggest pericardial effusion at an early stage. If one looked at anatomical plates of horizontal sections of the chest it was plain how easily a slight collection of pericardial fluid in the case of a patient lying on the back might compress the lower part of the left lung, even before it caused any alteration in size of the pericardial sac as seen from the front. It was generally acknowledged that the differential diagnosis between pericardial effusion and dilated heart with adherent pericardium was difficult and sometimes almost impossible. He thought, then, that in cases in which there could be any doubt it was better to call in a surgeon who could cut down slowly and feel his way, ascertaining the actual condition of things before the pericardium was opened.

Dr. CYRIL OGLE said that whilst observing a patient some years ago, who was subsequently operated upon and was proved to have the pericardium distended with fibrin and pus, he was struck by the condition of the large veins in the neck. The external jugulars were permanently distended, even when the patient was sitting up, and showed no pulsation at all. He thought that this immobile distension might be of value as distinct from the full veins with pulsation, which were usually seen with dilated heart, and might indicate an obstruction by pressure of the fluid to the entry of blood into the heart in a case of pericarditis. Since then a few cases which he had collected seemed to favour this view. He had collected the post-mortem and clinical records of the last ten years at St. George's Hospital, and these post-mortem results showed that when a patient died with rheumatic pericarditis there might be found a considerable amount of effusion and that therefore during life also extensive dulness and other such signs were probably as often due to effusion as to dilated heart, although the two might coexist. The clinical notes were not of great value, as such special points and signs as Rotch's sign, Bamberger's sign, and pulsus paradoxus were not mentioned. The post-mortem records were of interest in indicating the origin of pericarditis in relation to causation; for instance, its frequent association with lobar pneumonia and the liability to become purulent if the patient lived; also in showing how frequently in pneumonia it went undetected. In 1906 he (Dr. Ogle) had collected all the cases of pericarditis in children under four years who died in the hospital during the preceding five years; they were 16 in number. During life it seemed that the existence of pericarditis had escaped detection in all these 16 cases. He thought that there were two causes why pneumococcal pericarditis escaped detection. He thought that the sign of friction was not sufficiently often suspected and looked for in certain conditions in which it was apt to arise. It was well known that purulent pericarditis gave no friction sound, so that if the presence of friction were relied upon as a necessary sign, then purulent pericarditis would not be suspected. But when pus was present in the pericardium there was always, so far as he had observed, lymph as a solid sticky exudate in addition, and it could hardly be doubted that in an earlier case of inflammation friction was always present. It was therefore of great importance to make careful and repeated examination of the pericardium in order to detect a transient friction in all cases of pneumonia in the adult and in pleural

implication in a child. Dr. Ogle alluded to a mode of operation for cases of pericardiotomy in the epigastrium which he had published in 1900 in connexion with the late Mr. Herbert Allingham. Since this method was published there had been five examples at St. George's Hospital which showed that the operation itself could be very successful in regard to the objects aimed at: thorough exploration with the finger and cleaning of the sac and heart, back and front, from infected material and then uninterrupted drainage from the most dependent part. He thought that drainage and removal of clogging masses were better than puncture with a sharp needle.

Dr. W. IRONSIDE BRUCE showed skiagrams and demonstrated the sharp nature of the outline of the shadow of the pericardium.

Mr. C. R. C. LYSTER agreed that in X ray diagnosis of the condition the clear definite outline and the spherical shape of the pericardium were most marked.

Dr. F. J. POYNTON said he would confine his remarks to children only, and dwell upon two aspects of the discussion which appealed to him in particular. The first was the consideration of pericardial effusion acting by virtue of its bulk as a mechanical danger to the heart, the other more difficult and more important the consideration of the effusion as a noxious fluid to be drained from the sac. In childhood it was, he agreed, difficult to distinguish between pericardial effusion and dilatation, but he was convinced a large effusion was rare. He had never seen a rheumatic case which needed paracentesis. Pneumococcal cases rarely showed a large effusion. About 66 per cent. of cases of pneumococcal pericarditis occurred in children under three years, 80 per cent. in children under four. It was almost a disease of young children, and he entirely disagreed with the view put forward that it was secondary to empyema or pneumonia. He admitted that over 80 per cent. were associated with these conditions, and thought that exceptionally the pericarditis occurred by direct extension. He, however, held strongly that the vast majority were independent pericardial infections, which sometimes lasted for some months, and were almost impossible to diagnose. The assumption was made that they were secondary to the lung trouble, but what an assumption that is was clear when it was realised that no one could say when the pericarditis first started. For all we knew, the pericarditis might have arisen simultaneously with the pulmonary disease. Further, in about 15 per cent. of cases suppurative meningitis occurred, and in about 10 per cent. suppurative peritonitis. Suppurative meningitis assuredly did not arise by direct extension from the lungs or pleuræ. Tuberculous pericarditis was of two classes: in one there was a copious effusion; in the other general adhesion, multiple serositis, and death from tuberculous meningitis. These were rare cases, and so it came about that an effusion in childhood, causing by its bulk mechanical difficulty, was quite exceptional. Turning to the second point, the consideration of an effusion as a noxious fluid, he did not think that the bacterial origin of acute rheumatism justified at present the treatment of this form of pericarditis by drainage. With pneumococcal pericarditis it was a different problem, but the outlook for surgery here was but gloomy, regarding the usual tender age of the patient and the many complications. Looking to the future, he sought hope in an advance in serum-therapy. Exceptional cases of tuberculous pericarditis with effusion were more hopeful. Lastly, he felt that this discussion would not be complete unless some allusion was made to the experimental study of heart disease. Was it not a great step forward in the precision of our knowledge that from the most common cause of heart disease it was possible to isolate a micrococcus which would reproduce pericarditis, with effusion, fatal dilatation without pericarditis, simple endocarditis, malignant endocarditis, and transitional phases of endocarditis? Did not this settle once and for all the fate of the old repeated statement that pericarditis produced dilatation by spread of the inflammation into the heart wall? How could this be when fatal dilatation might result without pericarditis? No doubt there were especially gross changes immediately under an inflamed pericardium because a vast number of blood capillaries lay in the deep layer of the visceral pericardium and the infection located itself more intensely in that position, but the dilatation was not dependent upon this but upon the general myocardial damage.

Dr. ALEXANDER MORISON said that an analysis of 44 cases of acute pericarditis and adherent pericardium showed that the 12 cases which presented no concurrent endocarditic lesion were cases in which the inflammatory process had spread to the pericardium from the neighbourhood and were the result of tuberculosis, pneumonia, and empyema. He thought that the chief point of clinical interest lay in the diagnosis of cardiac dilatation from pericardial effusion. He agreed with Dr. West that the extension of the percussion dulness of the heart beyond the apex beat was a valuable indication of the presence of fluid in the pericardial sac, although the fluctuations in percussion dulness at the left cardiac base are of much value, as pointed out by the late Dr. Octavius Sturges. He showed cardiograms from a case of præcordial thoracostomy in which pericardial effusion occurred, and which at its deepest point altered the character of the cardiogram by registering a number of subsidiary vibrations which were absent where the fluid was shallower. Air likewise transmitted the cardiac pulsations across the pleural cavity in a case which he related, and he compared the influence of the air-medium of transmission to that of the fluid in the pericardial sac of which he had spoken. The registration and study of the cardiogram he therefore considered important as a diagnostic method in this connexion. Referring to treatment, he deprecated therapeutic activity in non-purulent cases when the collection of fluid was limited, but in the event of pericardial exploration being indicated he preferred the removal of a rib cartilage and cautious incision to puncture with a sharp needle. He related a case in which such an operation revealed an adherent pericardium and dilated heart, the examination of which by puncture would probably have been disastrous.

Dr. C. R. BOX and Dr. G. G. BUTLER communicated some remarks on pericarditis with effusion, based on cases collected from the records of St. Thomas's Hospital, which we shall publish in a future issue.

Dr. SAMUEL WEST said that the views expressed in regard to X ray diagnosis of pericarditis interested him because he had himself drawn attention to the fact of the absence of pulsation.

SECTION FOR STUDY OF DISEASE IN CHILDREN.

Exhibition of Cases.

A MEETING of this section was held on Feb. 25th, Dr. E. CAUTLEY being in the chair.

Mr. S. MAYNARD SMITH showed a case of Congenital Œdema of the Leg. There was well-marked œdematous swelling of the right foot and of the leg on its front and outer aspects. The leg was half an inch longer than the left. No history of any similar condition in the family was obtainable. The swelling was noticed at birth.—The case was discussed by Dr. W. ESSEX WYNTER, Dr. E. I. SPRIGGS, Dr. F. PARKES WEBER, and Dr. G. PERNET.

Dr. J. WALTER CARR exhibited a specimen of the Urinary Organs of a boy who died apparently from uræmia, diphtheritic membrane being found in the trachea after death. Both kidneys were shrunken. The ureters and bladder were considerably dilated, the condition suggesting the existence of some obstruction to the outflow of urine, but none could be found. The boy died after a short illness with symptoms of uræmia. At the necropsy, in addition to the changes already described, the lower end of the trachea was found covered with diphtheritic membrane, in which the diphtheria bacillus was isolated.

Dr. T. R. C. WHIPHAM showed a case of Myelogenous Leukæmia in an infant aged 18 months. The child was dark-skinned and flat-nosed, with a widely open anterior fontanelle. The lymphatic glands in the neck, axillæ, and groins were palpable and somewhat hard. The abdomen was enlarged, and the spleen extended to 4½ inches below the umbilical level. The blood count showed over 20 per cent. of myelocytes. On admission there was a large subcutaneous hæmorrhage on the extensor surface of the right arm and a similar patch on the right shin. Further blood counts showed that the number of leucocytes was increasing.—The case was discussed by Dr. FORSYTH and Dr. CAUTLEY.

Dr. D. FORSYTH showed a case of Non-cretinous Mental Deficiency with Goitre. The patient, a boy aged 5½ years, was of normal height and weight, and had suffered from fits since the age of 2 years. He was restless, talkative, and decidedly odd. His expression was vacant. His forehead was narrow and asymmetrical. His eyes had marked epicanthic folds. He showed a moderate non-cystic enlargement of the whole of the thyroid gland.

Dr. ESSEX WYNTER showed the specimens from a case of Chloroma shown at a previous meeting. The child died in February from asthenia. The specimens showed diffuse chloromatous growth transforming all the red marrow and being conspicuous in the flat bones and ends of the long bones. There were deposits also beneath the periosteum. Glands in the iliac, vertebral, and cervical regions were diffusely affected and the spleen was tinted a similar colour. There were no distinct secondary growths. A colour photograph was exhibited.

Mr. HUGH LETT showed a case of Cyst of the Humerus which had been successfully operated on. The patient, a boy aged 13 years, was knocked down in an accident last August. On examination the upper end of the humerus was much thickened for about two inches below the head of the bone. A fracture was discovered a short distance below the surgical neck. A skiagram showed expansion and rarefaction of the upper three inches of the diaphysis of the humerus. Two years previously a diagnosis had been made of endosteal sarcoma and amputation was advised but refused. Now operation was accepted. The bone was opened and a thin mucoid fluid escaped. The affected part of the diaphysis was removed, leaving an interval of three inches between the epiphysis and the healthy part of the shaft. The point of an ebony rod was inserted into the epiphysis and the blunt end into the medullary cavity of the shaft. In this way the epiphysis was firmly connected with the shaft. The periosteum was sutured. At the present time movement of the right upper extremity was perfect and the muscles were rapidly increasing in size. The new bone was firm and regular. On microscopical examination the condition appeared to be one of cystic fibroma.—The case was discussed by Mr. LOCKHART MUMMERY.

Mr. J. P. LOCKHART MUMMERY showed a case of Congenital Absence of the Left Femur in a male child aged 2 months.

Dr. J. PORTER PARKINSON showed a specimen of Hypertrophic Stenosis of the Pylorus from a female infant who died when aged 5 weeks.—Dr. CAUTLEY discussed the case, and Mr. LOCKHART MUMMERY said that these cases must be operated upon at the earliest opportunity if there was to be any chance of saving the child's life; delay was fatal.

Dr. E. I. SPRIGGS showed a case of Congenital Thoracic Deformity in a boy aged 11 years. The sterno-costal part of the pectoralis major and the pectoralis minor muscles were absent on the left side. The nipple was normal in appearance, but higher and nearer the middle line than on the right. Photographs were shown on the screen of a number of thoracic deformities of this nature. In many of these cases the costal cartilages and the anterior ends of the ribs were wanting in the mammary region, only a thin layer of skin and subcutaneous tissue protecting the lung. This condition has been ascribed to pressure of the upper limb of the affected side upon the thorax in utero.

MEDICAL SOCIETY OF LONDON.

The Cerebellum and its Affections.

A MEETING of this society was held on March 7th, Dr. SAMUEL WEST being in the chair.

Dr. J. S. RISIEN RUSSELL delivered the third of the 1910 Lettsomian lectures on the Cerebellum and its Affections. The infrequency of vascular lesions of the cerebellum as contrasted with the cerebrum was referred to, and reasons for this, including the sources of arterial supply of the organ and the free anastomosis which obtains in connexion with the cerebellar arteries, were discussed. The infrequency of cases in which the uncomplicated cerebellar syndrome is produced by hæmorrhage was commented on, and it was shown that when hæmorrhage is met with in the cerebellum it commonly has extended into the pons, or has been derived from this source. Occipital headache and giddiness are among the premonitions to be expected, while according to Nothnagel hæmorrhage in this situation may be suspected if there be repeated vomiting at the beginning of the attack without the occurrence of any obvious motor paralysis. Cases illustrative of hæmorrhage into the lateral lobes and middle portion of the cerebellum, and others in which the cerebellum and pons were concomitantly involved, were quoted, as were cases in which extravasation of blood in considerable quantity occurred in the organ without producing any characteristic cerebellar symptoms. Thrombotic lesions are usually discovered on necropsy, without having caused any symptoms that could lead to their being suspected during life, but exceptional cases occur in which cerebellar symptoms of a very definite character are determined. A diffuse sclerosis of the organ might also result in consequence of vascular disease, in which case there was a great deal of neuroglial proliferation, with disappearance of the cell elements of the cerebellar cortex, together with atrophic changes in the central nuclei, as well as sclerosis in the white matter and degenerations of the peduncles of the organ. A clinical picture could be thus produced which was similar to that to be expected in a case of progressive degeneration of the cerebellum without vascular disease to account for this. Another disease that might affect the cerebellum was encephalitis, which was especially liable to occur in children, following upon one or other of the acute infective diseases to which they are so liable. A previously healthy child became acutely ataxic after some febrile illness, and improvement gradually occurred until possibly complete recovery resulted. This happy termination of the cases made it impossible to be sure how many of them were due to a true encephalitis as opposed to the action of a toxin on the nerve cells without the production of inflammatory changes. Moreover, the cases that come to necropsy do so usually at such a remote period that it is not easy to be certain that the sclerotic changes that are present have been the outcome of encephalitis. It is accordingly satisfactory to find a few cases in which the patients have died while the acute lesions produced by encephalitis have still existed, as supplied by a case recorded by Nauwerck. Another class of case, which may be the outcome of acute disease earlier in life, is that in which there are evidences of chronic meningitis in addition to atrophy and a general sclerotic condition of the cerebellum, and in which epilepsy and mental enfeeblement may form part of the clinical picture. Progressive ataxia may result from degeneration of the cerebellar cortex, as proved by Gordon Holmes; or in conjunction with atrophic changes in the inferior olives and nuclei of the pons, as established by Thomas and Déjérine, but there is no such affection as that described by Marie as hereditary cerebellar ataxia, for in only one of the cases on which his paper was based had degenerative changes been determined in the cerebellum, all of the others, including the remarkable group of cases described by Sanger-Brown, supplying examples of the production of the cerebellar syndrome by affection of the afferent cerebellar tracts in the spinal cord in a manner somewhat similar to that which obtains in Friedreich's disease, which is the best established example of a cerebellar ataxia, the outcome of degeneration of the cerebellar system in the spinal cord without affection of the cerebellum itself. That progressive degeneration of the cerebellum may date from childhood is established not only by the numerous clinical records of such cases in which the cerebellar symptoms became gradually worse instead of improving in the way that so usually obtains in ataxia in children, but also by the histological changes determined in the cerebellum by Fraser in a case of the kind. Congenital defects of the organ were considered as they fall into one of three groups—those in which the cerebellum as a whole is small, but otherwise normal in structure; others in which the organ is uniformly reduced in size, and in addition presents definite histological changes on microscopical examination; while in the third group are included all sorts of gross defects, amounting, it may be, to what is practically an absence of the organ, so rudimentary is its sole representative. Cases that fall into the first group are of interest for the reason that a congenital defect of the kind has been held responsible for a clinical picture of cerebellar ataxia, such as is to be accounted for by degeneration of the cerebellum alone or in conjunction with the nuclei of the pons and inferior olives, or by degeneration of the cerebellar system of tracts in the cord. That persons affected in this way should

reach adult life without revealing any of the clinical abnormalities by which cerebellar defects are recognised is not in the least surprising in the light of what may similarly obtain in cases of gross defects of the organ, and in view of the provision for compensation of cerebellar inadequacy, to which reference was made in a former lecture. What, however, is difficult to accept is that a congenital inadequacy of the cerebellum which has existed from birth should, when adult life is reached, become responsible for a clinical picture in which cerebellar symptoms develop and become progressively worse until they terminate in death, without any evidence of regressive changes in the organ. Nevertheless such is held to be the case, as is illustrated by cases reported by Miura and Nonne respectively. That congenital defects of the cerebellum may, however, occasion disturbance of function without there being gross lesions, in which the whole or part of the organ is absent, is evidenced from what he (Dr. Russell) once determined in a puppy, in which, although no gross macroscopical defect was evident, histological abnormalities, which were regarded as congenital in origin, were nevertheless determined to account for the cerebellar symptoms which existed during life. Southard has met with a somewhat similar condition of things in an imbecile, who was epileptic, which he also regarded as congenital in origin. In the absence of pathological evidence, it is, of course, impossible to say whether cases described as congenital ataxia are to be accounted for by such anomalies, or whether a mere delay of development of the cerebellum without structural changes is responsible for the clinical picture. In such cases cerebellar symptoms occur in infancy, and the patients improve to a variable extent, and thus do not usually afford opportunities of post-mortem examination. In illustration of gross defects of the cerebellum Dr. Shuttleworth's case, described by Dr. Ferrier in his "Functions of the Brain," was quoted as an example of how little clinical evidence there may be of disorder of the cerebellum in the presence of such gross defects as obtained in this case. Other cases have, however, presented very distinct cerebellar symptoms, which have permitted of a correct diagnosis during the life-time of the patient, but even in these they have not been of such severity as might have been expected had we been ignorant of the provision which exists for the compensation of cerebellar defects. A case recorded by Anton was quoted in illustration of this, for although the patient presented disturbances of equilibrium and diminution of vigour of all movements the clinical manifestations were not as pronounced as might have been expected in a case in which a gelatinous membrane covering the fourth ventricle, with a few microscopical remnants of cerebellar tissue at its margin, was the sole representative of the organ. The manner in which cerebellar symptoms may alter the clinical picture of certain general diseases of the nervous system was discussed in conclusion, and cerebral diplegia was referred to as an example in which the alteration of the clinical picture was immaterial, but in which, nevertheless, the contention of Batten and others who hold similar views seemed justified, that cerebellar symptoms in such cases are in reality due to concomitant defects of the cerebellum, and are not to be accounted for by abnormalities of the cerebrum alone. Disseminated sclerosis supplied another example of the kind, in which, owing to the fact that the cerebellum or its peduncles may be involved by some of the sclerotic areas which constitute the morbid picture of the disease, the clinical manifestations may suggest cerebellar affection rather than a cerebro-spinal disease. Errors of diagnosis are comparatively unimportant where degenerative diseases of the cerebellum are being dealt with, but it is otherwise when, as often happens, the affection of the cerebellum is a tumour, for the brilliant achievements of modern surgery make it imperative that errors of diagnosis should, if possible, be avoided in this class of case. The outstanding feature which should guide us in the diagnosis of disseminated sclerosis, as opposed to cerebellar disease, is evidence of affection of the pyramidal system as revealed by spastic paralysis, ankle clonus, absence of the abdominal reflexes, and alteration of the plantar reflex to the extensor type. It is to be admitted, however, that in its early manifestations disseminated sclerosis may affect the cerebellar system to the exclusion of the pyramidal tracts for a time, so that it is fortunate that there are other manifestations that may serve to guide us to a correct diagnosis, of which none is more important than affection of the sphincters, notably that of the bladder, which is liable to occur so early in the course of the disease, and which has no part in the uncomplicated cerebellar syndrome. Subjective and objective defects of cutaneous sensibility must be similarly regarded, while the remissions, followed by relapses, so common in the course of disseminated sclerosis, do not occur in cerebellar affections, although some of the morbid states that affect the organ permit of marked improvement, even, it may be, up to complete cure. Although optic atrophy has formed part of the clinical picture in some patients the subjects of cerebellar disease, this is not the rule except when gross lesions, such as tumours, have occasioned optic neuritis, which has resulted in consecutive atrophy, so that the amblyopic defects of vision, with contraction of the fields and central scotoma, with or without optic atrophy, must be regarded as in favour of disseminated sclerosis. When the possibility of cerebellar tumour is under discussion optic neuritis must be allowed to favour the probability that this, rather than disseminated sclerosis, accounts for the clinical manifestations in general, for although optic neuritis has been determined in disseminated sclerosis by competent observers, it is so uncommon that in a large experience he (Dr. Russell) has not yet met with a case. Headache of the severe and paroxysmal type, met with in cerebellar tumours, is not likely to occur in disseminated sclerosis, and the same may be said of vomiting. But it is otherwise when vertigo is under consideration, for this symptom may be most pronounced and distressing.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Types of Imbecility.—Pseudo-Hypertrophic Muscular Paralysis.—Sciatica.—Leukæmia.

A MEETING of this section was held on Feb. 18th, Dr. JAMES LITTLE being in the chair.

Dr. J. H. P. BOYD BARRETT exhibited a case of Acquired Imbecility. The patient, who was a boy aged 5½ years, was unable to speak articulately. He could do little more than "grunt." He understood everything that was said to him, and was somewhat obedient. He did not walk until he was 3 years old. He was subject to fits of bad temper, in which he would throw china cups over the garden wall. His face was marked by congenital syphilis, the bridge of the nose was sunken, and his mouth was scarred. His mother had several miscarriages. He was the only child that lived. Dr. Barrett said that syphilis was the most common cause of secondary or acquired imbecility. It was also the cause in childhood of that fatal mental degeneration, analogous to general paralysis of the insane in adults, called "juvenile general paralysis." The latter was a progressive and fatal disease. but this boy, on the contrary, enjoyed good health.

Dr. BARRETT also exhibited a case of the Genetous Type of Imbecility with Single Ptosis. The patient was a girl aged 10 years. She was quiet and diffident. She had a pale, unhealthy colour, her left eyelid drooped, and she showed that type of face and chest which was associated with adenoids. Her expression was vacant. Her speech was jerky and indistinct. The family history on the mother's side was extremely good. The father did not drink to excess. Both parents and the other children in the family were healthy. However, all the near relations on the father's side drank excessively. The child's paternal grandmother was said to have "died of drink." The stigmata of degeneration present in this case were vacant expression, gothic palate, winged ears with deficient helix, nocturnal enuresis to age of 9 years, fæcal incontinence to age of 7 years, slowness in learning to walk and talk, rhythmic movements of hands, and incapacity for being taught to read, write, or sew. She was not likely either to live long or to be able to earn her livelihood.

Dr. BARRETT also exhibited a case of Mongolism in a boy aged 5 years. With the possible exception of umbilical hernia and congenital heart disease he had all the chief signs and symptoms of mongolism. He was restless in manner and chattered unintelligibly but ceaselessly. The complexion was fair. The eyes were oriental and marked

epicanthic folds were evident. He used to dribble and protrude the tongue, but in these respects he had improved somewhat. He had a curious incurvation of the little finger. The head was brachycephalic. Although he was 5 years old he could not walk. He was late in sitting up, late in teething, and late in observing.—Dr. WILLIAM R. DAWSON said that it was now held that mongolian idiocy was due to malnutrition of the fœtus in utero, occurring, as it did, when a child was born at the end of a long family. It had been pointed out that the little finger and thumb in such cases were always abnormally short. There was also a slightly spotted condition of the child's iris.

Dr. A. DEMPSEY showed two cases of Pseudo-hypertrophic Muscular Paralysis occurring in boys, brothers, aged 11 and 12 years. There was nothing peculiar about the family history except that an uncle had had some nervous disease. When the elder boy was 5 or 6 years of age his mother noticed that he commenced to trip and had difficulty in going upstairs. In a couple of years he had difficulty in walking, and now, about six years after the onset, he had to be carried. The younger boy was in good health up to a couple of years ago, when he commenced to suffer in the same way. He now showed the combination of atrophy and hypertrophy, which was characteristic of the disease.

Dr. M. ORB read a paper on the Physico-therapy of Sciatica. He divided cases for treatment into two classes —acute and chronic—and made no distinction as to their pathology. For the former class he relied chiefly on hot applications and very gentle massage, combined, of course, with absolute rest in bed. Blistering and acupuncture he never employed. For chronic cases he used massage, hot and cold douches alternately applied, and active and passive exercising of the affected limb. All treatment was directed to an endeavour to increase the rapidity of the circulation through the affected part.—Dr. J. CRAIG said that he was accustomed to deal with neuralgic cases as distinct from the neuritic. Neuralgia of the sciatic nerve generally yielded to anti-neuralgic treatment. The neuritic cases, however, gave a great deal of trouble. Nerve-stretching was, he believed, associated with considerable danger. A patient under his care had had a nerve stretched during his absence, and died subsequently from myelitis. He believed that the hypodermic injection of morphia was one of the few things that gave rest when pain was severe.

Dr. R. TRAVERS SMITH and Dr. H. C. EARL communicated a paper on Acute Leukæmia. A girl, aged 20 years, was admitted to the Whitworth Hospital, Dublin, under the care of Dr. Travers Smith on Nov. 2nd, 1909. She had only complained of ill-health for a fortnight previously. It was found that the glands in the right side of the neck and left axilla were enlarged, and that she was very anæmic. A blood examination showed signs of so-called acute lymphatic leukæmia. She only lived for 20 days after admission. During that time the spleen enlarged rapidly, as did the glands in the neck. The temperature varied between 101° and 103° F. Almost the whole interior of the mouth became gangrenous. Moderate diarrhœa persisted. Four days before death the temperature fell by crisis. The blood when first examined contained 60 per cent. of hæmoglobin, 3,024,000 red cells per cubic millimetre, and 192,000 white cells per cubic millimetre. Of the white cells about 8 per cent. were small lymphocytes and 88·7 per cent. were transitional cells. In the course of six days the red cells had diminished to 1,776,000 per cubic millimetre and the hæmoglobin to 30 per cent. The white cells remained about the same as at the first examination till death occurred, but the lymphocytes increased to 22 per cent. of the total white cells. At the post-mortem examination the spleen was found to be very much enlarged, weighing 1650 grammes; the marrow of the shaft of the femur was reddish-grey and gelatinous in appearance; the glands were not enlarged, except those in the anterior mediastinum and left axilla, which were tuberculous. The marrow of the femur contained mainly cells with a strong resemblance to the transitional cells found in the blood, and a few cells containing neutrophile granules. The lymphatic glands contained besides lymphocytes a good many transitional cells. The liver was enlarged but not increased in weight. On section a frothy fluid escaped, and an anaerobic organism with the characters of bacillus phlegmonis emphysematosæ was isolated from the organ.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on March 4th, Mr. C. Gordon Watson, the President, being in the chair.—Dr. Leonard Williams read a paper on Pituitary Extract and Some of its Effects. He said that it has been demonstrated that the pituitary gland has an internal secretion which is essential to the economy. Perhaps the most interesting function of the pituitary secretion is that which it exercises in the direction of causing the contraction of involuntary or unstriped muscular fibre. If we consider the very important part which this form of muscle plays in the body, it is easy to realise, not only the far-reaching physiological effects of the pituitary secretion, but also the application of which its artificial administration in therapeutics is capable. The pituitary secretion stimulates the contractile power of the tunica media of the blood-vessels and of the heart muscle, hence the obvious clinical result will be a very decided rise of blood pressure. Clinically, of all the acute affections in which pituitary extract has been tried enteric fever is the one in which it has shown the best results, for the poison of typhoid is essentially vaso-dilative in its action. Pulmonary tuberculosis is of all others the disease in which a low blood pressure is a marked and prominent symptom. It attends and goes far to explain the languor and debility, the quick pulse, the restlessness, and the insomnia. Pituitary extract increases the physical energy, restores the appetite, calms the restlessness, and promotes sleep, at the same time and in the same degree as it raises the blood pressure and reduces the pulse-rate. In post-influenzal cardiac debility pituitary extract restores tone to the cardio-vascular system, and inasmuch as at the same time it induces sleep it is doubly valuable. But the power of pituitary extract to cause contraction of the unstriped muscular tissue in the cardio-vascular system finds its most useful therapeutic application in surgical shock, for it will contract the vessels and keep them contracted for a period of about 12 hours. Blair Bell from experimental evidence concluded that post-operative intestinal paresis would be favourably influenced by pituitary extract, and he induced his surgical colleagues to give the remedy a trial, with the result that his anticipations were fully realised. The special vaso-constrictive effect of pituitary extract is most conspicuously displayed in its relation to the thyroid. The thyroid stimulates secretion from the nasal mucosa: the pituitary brings about a vaso-constriction of this mucosa which is just as pronounced and much more durable than the effects produced by adrenalin. The thyroid induces mental alertness amounting in large doses to restlessness and excitement; the pituitary produces somnolence, and is, with certain qualifications, one of the best remedies for sleeplessness at our command. The thyroid fixes the salts of calcium in the body; the pituitary aids and abets the capricious ovary in discharging these salts as quickly as possible. It is, however, by reference to Graves's disease that the antagonism between the two becomes most apparent Pituitary extract produces a very noticeable effect upon some of the most troublesome symptoms of the disease. It calms the excitement and promotes sleep; it slows the heart and raises the blood pressure; it checks the perspirations and prevents the sudden flushes of heat; it stops emaciation; and, finally, it modifies the tremors to the point in slight cases of completely abolishing them. Again, in paralysis agitans the low blood pressure, insomnia, and perspiration, together with the intolerance to heat, are rapidly and decidedly improved by pituitary extract. The stimulating effect of pituitary extract upon unstriped muscle is nowhere more striking than in its action upon the muscular tissue of the uterus. Blair Bell, after a Cæsarean section, gave a single injection of pituitary extract, and immediately he saw the enlarged, congested, and distorted organ become, as he expresses it, "a blanched ball." The dose of the extract is usually quoted as from two to five grains, and the best method of administration is by subcutaneous injection.

NORTHERN ASSOCIATION OF MEDICAL WOMEN.—A meeting of this association was held in the Medical Institution, Liverpool, on Feb. 19th, Miss Mary Ivens, M.S., being in the chair.—Dr. Margaret M. Smith gave an account of the work done by the Manchester branch of the association to procure the admission of women to the resident posts at the Manchester Royal Infirmary.—Dr. Margaret B. Dobson, inspector of school children under the Bradford education committee, read a paper on the Medical Inspection of

School Children. She described the method by which the children are examined. They are afterwards divided into two classes: (1) Normal; and (2) abnormal, including all who require either treatment or watching. In the latter class the parents, unless present at the examination, are notified of the defect. Two months later the children are seen again. Dr. Dobson disapproves of the examination of children at the age of 13 years, because they often leave before reaching that age. She would prefer examination at the age of 12, a further advantage being that children not fitted for "half timers" could be weeded out. Dr. Dobson described the treatment of the different diseases at the school clinic in Bradford. All children suffering from contagious diseases, pediculosis, offensive otorrhœa, &c., are excluded from school by the medical officer and are not re-admitted without a medical certificate. Dr. Dobson strongly advocated treatment in a school clinic on the following grounds: (*a*) Insufficiency of former methods. The Bradford children have for nearly 15 years been inspected and the parents notified of defects, but it was found that only 33 per cent. had received adequate treatment. (*b*) Government grant is influenced; attendance at the school clinic counts as a school attendance. (*c*) The cases are cured in the shortest possible time, attendance at the clinic being enforced by the attendance officer. (*d*) Daily treatment can be given. Special departments of many hospitals are only opened once or twice a week. The daily cleansing of such conditions as septic ears renders them no longer a source of danger to the health of the rest of the class. (*e*) By increasing the interest of the work a better class of officer will be attracted to it. Finally, Dr. Dobson proceeded to describe the open-air school. The stay of the child is prolonged until recovery, as shown by blood count or other proof, has taken place.—Dr. Frances M. Harper advocated the use of trained nurses to replace the attendance officer in the absence of a school clinic. She considered that too much stress was laid on schedules. More freedom should be given. Great care should be taken to secure the coöperation of the children themselves. The teaching of hygiene was of great importance. The syllabus was too abstract and theoretical. Instruction in cleanliness and decency should be insisted upon. The children should be instructed in the use of the tooth-brush and handkerchief, and their hair should be inspected adequately.—Dr. Katharine R. Drinkwater described her methods of examining the children. Upon re-examining the children she found that only 33 per cent. had received satisfactory treatment.—Dr. Lillie Johnson, Dr. Catherine Chisholm, and Dr. Mary Davies also discussed the paper.

Reviews and Notices of Books.

The Hygiene of School Life. By RALPH H. CROWLEY, M.D. Lond., M.R.C.P. Lond. London: Methuen and Co. 1910. Pp. 403. Price 3*s.* 6*d.* net.

THIS is, on the whole, an excellent book, and it appears at the right moment. Dr. Crowley has had exceptional opportunities of studying the medical supervision of elementary schools, as he acted for some time as medical superintendent to the Bradford Education Committee; and Bradford (as in many other matters of hygiene) has been in front in the medical supervision of its schools. The volume is strictly limited to the consideration of elementary day schools; boarding schools of any class whatever do not come within its range.

The author has recently received an appointment in the medical department of the Board of Education, but he is careful to point out that the views and opinions which he has expressed are purely personal and carry no official sanction or weight. In fact, it appears that had it been possible he would have withdrawn his book from the press; but in our view it is fortunate that this course was not pursued. The views of Dr. Crowley as to the range and executive methods necessary in the application of treatment for ailing school children are very advanced. Everything is to be provided at the public expense. For medical treatment the special "school clinic" is the only effective machinery. The provision of school meals occupies an important space, and the chapter on this subject is full of well-arranged details and carefully considered general economics. There is a short but excellent account of school baths and the advantages of the system of compulsory school bathing, carried out under proper supervision, and with inspection of delicate or ailing children. This section includes a brief *résumé* of the report on the arrangements found in various German towns, presented by the assistant education adviser, Dr. F. Rose, and Dr. J. Kerr, medical officer (Education) London County Council, to the Education Committee of the London County Council, 1908. The new developments of elementary education involve those who would consider them closely in difficult problems of sociology. Individualist thinkers may have doubts, and grave doubts, as to the ultimate wisdom of feeding and clothing (for Dr. Crowley claims clothing also) all school children at the expense of the community, but good arrangements for bathing are cheap on a large scale, impossible in the homes of the poor, and of enormous benefit to the rising generation who may enjoy them.

An interesting section is that on the Open-air Recovery School; this system, first inaugurated at Charlottenburg in 1904, provides a daily refuge for convalescent, anæmic, or delicate children who are incapable of returning to ordinary school life, and whose only alternative is to drift from bad to worse in the possibly insanitary and certainly unsuitable surroundings of a close and crowded town. We recently commented in a leading article on a report to the Sheffield education authority which forms an excellent rider to Dr. Crowley's account of this system.

There is no part of the volume of higher interest to the general medical reader than that dealing with infectious diseases. In this chapter the difficult and constantly recurring question of the closure of schools is most judiciously handled, and proper attention is given to the dangers from infective disease involved when a very early age of first attendance at infant schools is encouraged. A proper regard is shown for that most serious of school epidemics, measles, but the author does not attach sufficient importance to the epidemic intensity or variations in virulence of this disease. Probably there is no epidemic prevalent in Great Britain, except small-pox, which presents such differences in violence, and the epidemic value should be recognised early, both by medical officers and by school authorities. In respect of vaccination Dr. Crowley comes to a definite and deliberate conclusion as far as the hygiene of school life is concerned. He says: "Whatever may be the *pros* and *cons* of vaccination, there is no disputing the fact that a school composed of children, all well vaccinated, need be in no fear of trouble from small-pox." Such a pronouncement will be welcomed by all sensible persons. By the way, we must protest against the use of the word "schoolmen" on p. 261 (as meaning officials engaged in schools), seeing that the word has the sanctity of a special use.

The final sermon on the "Parent and the State" will probably not appeal to the poorer members of a professional class who are overwhelmed with increasing taxation and nervous at the prospect of the institution of a State service wherein their own work will be exploited. To them the theory advanced by many writers even in our own ranks may seem paradoxical—that the way to teach parents their duty to their children is to relieve them of all those duties except the one of driving them each morning to school, there to be taught, cleaned, clothed, fed, disciplined, and doctored. We do not say that this is exactly Dr. Crowley's creed, but we think that the justification for such views could be found in his pages.

Lehrbuch der Nervenkrankheiten (*Text-book of Nervous Diseases*). Edited by Dr. HANS CURSCHMANN of Mainz. With 289 illustrations. Berlin: Julius Springer. 1909. Pp. 977. Price M.24.

THE impetus given to the study of diseases of the nervous system by the advances made in the investigation of the physiology and pathology of nerve structures has made it a matter of great difficulty to deal with them adequately within the compass of a general text-book of medicine. Neurology has become an important specialty with a very extensive literature. An up-to-date text-book is therefore highly essential in order to afford the general practitioner and the general physician an opportunity of studying the present state of knowledge in regard to any given disease of the nervous system with which he may have to deal without having to delve into special monographs. The book before us gives a fairly full study of diseases of the nervous system by a number of German physicians of distinction and presents the German point of view. Although numerous authors are quoted no references are given, and the work of English neurologists receives insufficient recognition.

The book is divided into 12 sections. The first deals with the general diagnosis of nervous diseases and is written by Dr. S. Schoenborn of Heidelberg. Much stress is laid upon the value of a careful history in case taking, as being of special value in regard to cases of nervous disease. The various symptoms and the manner of investigating them are categorically considered. The second section is devoted to diseases of the peripheral nerves and is contributed by Dr. H. Steinert of Leipsic. They are divided into two groups—the destructive and the neuralgic. The general etiology and pathological anatomy of the former are first considered, and then the clinical characters of paralysis of the individual cranial and spinal nerves are described in some detail and illustrated by diagrams and by reproductions of photographs. Multiple neuritis and certain special forms of neuritis, such as those due to lead and to the diphtheritic toxin, are also dealt with. In this section a brief account is appended of Landry's paralysis. The various neuralgias and their treatment are next described.

Diseases of the spinal cord form the subject of the third section, which begins with a description of the normal and pathological physiology of the cord by Dr. Max Rothmann of Berlin, who gives some interesting and useful tables and diagrams. Dr. Schoenborn begins the study of the system lesions with descriptions of tabes dorsalis and Friedreich's disease, both of which are admirable. The pathogenesis of the former disease is critically discussed. Dr. Schoenborn arrives at the conclusion that the radicular meningitis theory of Nageotte is that which at present is the most plausible. The remaining system lesions are carefully described by Professor Fr. Jamin of Erlangen. The accounts of disseminated sclerosis, syringomyelia, and hæmatomyelia are given by Professor H. Schlesinger of Vienna, who, as might be expected, gives admirable studies of these conditions. Traumatic affections of the cord, the various compression paraplegias (including those due to tumours of the cord and its membranes), syphilitic affections of the cord, and myelitis are all discussed by Professor Finkelnburg of Bonn in a clear and practical manner. An interesting study of the affections of the conus terminalis and the cauda equina, well illustrated by diagrams indicating the various forms of anæsthesia occurring in these conditions, is contributed by Dr. L. R. Müller of Augsburg.

The fourth section consists of an interesting and well-arranged study of the myopathies, including also myasthenia pseudoparalytica, a myotonia congenita, and Thomsen's disease. The fifth section comprises a review of the normal and pathological physiology of the brain, by Professor Hugo Liepmann of Berlin, and includes a full and detailed consideration of the various forms of aphasia. In the same section are included the descriptions of the various forms of cerebro-spinal meningitis by Professor Hugo Starck of Carlsruhe; a full study of cerebral tumour, cerebral abscess, and non-suppurative encephalitis, by Professor Max Lewandowsky of Berlin; of cerebral vascular lesions, by Professor C. Hirsch of Göttingen; and of general paralysis of the insane and of epilepsy, by Professor R. Gaupp of Tübingen.

The sixth section is contributed by Professor J. Ibrahim of Munich, and contains a careful presentation of the organic nervous diseases of childhood. The seventh section, by Dr. Fr. Pineles of Vienna, under the heading of Hyperkinetic Affections, contains descriptions of chorea, tetany, paralysis agitans, tremor, occupation neuroses, the tics and spasms, and paramyoclonus. The eighth section, by Professor Aschaffenburg of Cologne, is devoted to the psychasthenic conditions; the ninth, by Dr. Müller of Augsburg, to the affections of the sympathetic nervous system; the tenth, by Dr. Hans Curschmann, to vasomotor and trophic diseases; and the eleventh to toxic conditions of the nervous system. This is contributed by Dr. F. Quensel of Leipsic, and includes descriptions of poisoning by various organic and metallic poisons. The last section, by Professor Fedor Krause of Berlin, is devoted to the operative treatment of nerve diseases and contains the data for cranio-cerebral topography, with accounts of the various operative procedures available for lesions of the brain and its membranes, the cord, and the nerves.

We can commend this volume as a useful work of reference, practical and authoritative in character. The printing, illustrations, and binding are also of a better quality than is usual in foreign text-books.

Diseases of the Stomach. By S. H. HABERSHON, M.A., M.D. Cantab., F.R.C.P. Lond. London: Cassell and Co., Limited. 1909. Pp. 565. Price 9*s.* net.

THIS work is intended to be a manual for practitioners and students. It commences with a chapter on the anatomy of the stomach, which is well written and gives briefly all the important anatomical information which it is necessary for the medical man to know before he can properly appreciate the symptoms and complications of the various gastric diseases. There are some excellent diagrams and plates illustrating in a very clear manner the different anatomical points. The chapter on the physiology of digestion contains a good account of the physiology of the digestive secretions, and the recent work on this important subject is fully discussed. In this chapter there is no reference to the important part played by the motor functions of the stomach in aiding digestion, and nowhere in the book is there any reference to the recent important investigations which have been made by means of X ray examinations after a meal containing harmless bismuth salts. Since the size of the stomach and its motor functions in various pathological conditions can be so clearly demonstrated by these methods, it is to be hoped that reference will be made to them in a future edition. There are excellent chapters on diets, and very useful information is given to the medical practitioner on the dietetic treatment of various gastric conditions. The author shows an intimate acquaintance with and experience of the various articles of diet which have to be resorted to in the treatment of many cases of gastric disorders, and a very useful summary is given of the composition and uses of the more important

commercial preparations which are used for dietetic treatment.

The chapter on the examination of the gastric contents needs considerable revision in the chemical portion. The description of Töpfer's test is inaccurate; also the description of the application of Günzberg's reagent in testing for free hydrochloric acid is very imperfect. There is no description of a good clinical method for estimating free and combined hydrochloric acid in the gastric contents. Several methods are given, but the author does not state on which he advises reliance to be placed. It is to be hoped that in a future edition of the work the modified Volhard process for estimating free and combined hydrochloric acid will be included.

The symptoms and treatment of the various diseases of the stomach are well described, and the author gives his readers the benefit of his great clinical experience. The subject matter of this portion of the work is illustrated by several excellent plates. In the diagnosis of diseases of the stomach it seems to us that the author does not attach sufficient importance to the routine examination of the gastric contents after a test meal. There is scarcely any mention of this method of examination under the diagnosis of gastric ulcer. In the diagnosis of gastric cancer the description of the chemical composition of the gastric contents is imperfect. There is no mention of the value of quantitative estimations of the free and combined hydrochloric acid, and the marked diminution of the ferment activity is not laid stress upon.

The book will certainly be of value to the practitioner and student, and there is much useful and valuable information in it. We have indicated the places where it seems to us improvement can be made in the expectation that in a late edition certain revisions will be made.

Serums, Vaccines, and Toxins in Treatment and Diagnosis. By WM. CECIL BOSANQUET, M.A., M.D. Oxon., F.R.C.P. Lond., Assistant Physician to the Charing Cross Hospital; and JOHN W. H. EYRE, M.D., M.S. Dunelm, F.R.S. Ed., Bacteriologist to Guy's Hospital. Illustrated. Second edition, thoroughly revised. London: Cassell and Co. 1909. Pp. 362. Price 7*s.* 6*d.* net.

THE original edition of this valuable little volume appeared in 1904, and in the preparation of that edition Dr. Eyre had a considerable part in selection and revision of material, though his name did not appear on the title-page. In the issue of this edition Dr. Bosanquet has wisely associated Dr. Eyre with himself as collaborator, for the subject is now so vast, and shifts so constantly in theories and details, that its complete survey is almost beyond the accurate range of a single mind.

The study of immunity is complex, and its study has been rendered unnecessarily difficult by the adoption of a whole code of new technical phraseology. The introduction of such new terms has probably been favoured by the diverse nationalities of those working in this new field and the diverse languages in which they have recorded their researches; but the result has not tended in the direction of a simple exposition of facts and theories to minds who come fresh to the subject. But here lies the value of Dr. Bosanquet's book: no one can fail to follow his explanation of even the more complicated aspects of immunity. His style of writing is so simple and lucid that he is not even hampered by the strait limitations of space which his publishers have probably imposed. To the many who seek a readable and trustworthy guide to an important subject on which they may have little knowledge this text-book may be unhesitatingly commended.

The bulk of the text has not been much altered in the new edition, but it has been carefully revised and brought up to date. The most important addition is a survey of the subject of opsonins, which is complete, careful, and judicial in estimation. The authors maintain the view that the existence of the "stimulins" of Metchnikoff and Leishman is not proven, and that increase in opsonic value is due to diminution of bacterial resistance. In the consideration of the vexed question of phagocytosis in the absence of serum they adopt the opinion, which is probably a highly judicious compromise, that phagocytosis does occur in the absence of serum but probably only to a very slight extent. In order to find room for this and much other new matter it has been necessary to cast aside a good deal of introductory matter which Dr. Bosanquet handled extremely well in his first edition; but this matter was largely historical, and should be fairly familiar to every well-informed student of modern pathology. But we regret that it has been necessary to omit certain excellent material. The life-history of the tetanus bacillus is of the highest importance in a proper conception of the disease, and the sketch given in the earlier edition was too good to have been discarded. But as one of the most subtle arts in other games is the discard, the editors have shown great tact in unloading their hand, if so flippant a simile may be allowed. They have shed all sorts of theories and a number of "submicroscopic discoveries" which have not acquired proper confirmation, and the selection which they have made of material for the groundwork of future knowledge is trustworthy and judicious.

Scientific and Biological Researches in the North Atlantic. By R. NORRIS WOLFENDEN, M.D. Cantab. London: Rebman, Limited. 1909. Pp. 234. Illustrated. Price 10*s.* 6*d.* net.

FOR a good sailor there are few better ways of taking a holiday than in a sailing boat. The size and rig matter little. There are the charm and constant novelty of the sea, whether it be fine and calm or needs all one's seamanship to keep afloat at all. Nearly everything, too, has to be learnt about the ocean, its currents, its temperature, its inhabitants, and yet for lack of scientific training the yachtsman very rarely makes use of his opportunities for adding to the modicum of knowledge which we already possess. Much credit is due to Dr. Norris Wolfenden, who has spent some part of his leisure in accumulating a vast number of observations which are not only useful now but will prove more useful in the future when they have been correlated with the work of other observers. The book contains the results of cruises made in the *Walwin* and the *Silver Belle*, the one a small cutter of less than 40 tons, the other a ketch yacht of 130 tons. The earlier trips were made round the Shetland Islands in the Faeroe Channel in 1899-1902; the later ones in the neighbourhood of Gibraltar, whilst in 1907 Dr. Wolfenden cruised to Norway by way of Shetland. The first sets of observations were made independently of any central organisation, but when the North Sea Fisheries Investigation Committee began systematic work in 1902 Dr. Wolfenden endeavoured to connect the observations of the Scottish, German, and Scandinavian expeditions. His results show how much can be done by a private individual and at a comparatively small cost. He was fortunate in obtaining the services of a first-rate skipper and general manager in the person of Captain Buchan Henry of Shetland, and he estimates the expenses of a three months' voyage to be about £300. The secret of his success is partly revealed by the statement that "I was at some pains to obtain an equipment of the most perfect and modern description," but mainly to his own energy and enthusiasm.

The observations were directed towards the movements of the oceanic currents, the variations in the temperature of the ocean at varying depths, the salinity of the ocean, and variations in its gaseous contents as measured by the oxygen and carbon dioxide. The study of the fauna was directed chiefly to the plankton—the multitudinous floating life that is variously associated with particular waters, and that serves as food for a variety of fish. The observations on the movement of the ocean currents showed that not only in enclosed areas like the North Sea, where varying land influences are important, but in the open ocean itself the currents are constantly changing in direction and speed of movement, so that the same points of the ocean are occupied at different times by water derived from widely different sources. The movement varies greatly from season to season and from year to year. The observations made upon the oceanic flow through the Straits of Gibraltar were especially interesting. Dr. Wolfenden says that the effective width of the Strait is about 7½ miles and its depth about 200 fathoms. Two currents flow in opposite directions through it, the one inwards to the Mediterranean, the other outwards into the Atlantic. The plane of separation between the inflowing and outflowing waters lies at a depth of between 100 and 150 fathoms. The outflowing stream is the lower and is some 70 fathoms in depth. It first flows over the ridge in the floor of the Strait, and then, being of a higher salinity, it falls down, mixing rapidly with the fresher waters of the ocean until it reaches a depth of about 600 fathoms, after which the horizontal movement becomes more extensive than the vertical. At the time the observations were made it would seem that the influence of the Mediterranean water was inappreciable in the Atlantic west of about longitude 22° W. and below 1300 fathoms. Northwards the effect was still apparent at some distance above the latitude of Lisbon, and at the station where this observation was made there was a remarkable stratum of water salter and heavier than the water above and below it, lying at a depth of between 1000 and 1200 fathoms. The hydrographical results were worked out by Dr. H. N. Dickson at Oxford and his article is reprinted from the *Geographical Journal* for April, 1903, whilst the water analyses were made by Professor O. Peterssen at Stockholm. The biological observations were described by Mr. Holt and Mr. Byrne for the fishes, by Mr. W. M. Tattersall for the amphipods and isopods, and by Mr. G. P. Farran for the pyrosoma. There is a discrepancy as to the source of the Himantolophus rheinhardti, for Dr. Wolfenden says it was bought at Gibraltar, whilst Mr. Holt and Mr. Byrne say it was brought up in the *Silver Belle's* trawl. It is a fine specimen, well described and figured, and it is now in the Natural History Museum at South Kensington, as it is only the fifth known example of this remarkable genus of fish.

The book forms the first volume of the Memoirs of the Challenger Society. It is well printed, well illustrated, and is provided with a good sketch chart showing the routes of the *Silver Belle* from 1903–1907.

LIBRARY TABLE.

Materia Medica, Pharmacy, Pharmacology, and Therapeutics. By W. HALE WHITE, M.D. Lond. Eleventh edition. London: J. and A. Churchill. 1909. Pp. 695. Price 6*s.* 6*d.* net.—This comprehensive book has reached its eleventh edition, which fact is a sufficient review in itself. It contains a vast amount of information. We might suggest that in the doubtless forthcoming twelfth edition Dr. Hale White should modify the remarks about potassium salts on p. 121 and in other places. It is surely confusing to the student to be told, "When taken by the mouth, potassium salts are excreted as quickly as they are absorbed, so no effect is produced by the potassium ion, but this is really powerfully depressant to all nerve and muscle tissue, as is shown by local application or subcutaneous injection, in which case excretion is not nearly so rapid as absorption." Then on pp. 130–131 he is told of the internal use of potassium nitrate that it is a powerful cardiac depressant, and on p. 134 he is again told that "Sodium salts are not depressant to the cardiac, muscular, and nervous systems, and therefore are not poisonous like potassium salts." Surely it is a pharmacological fact that potassium salts administered by the mouth are more poisonous than sodium salts, and for a student it seems to us that the above passages taken together are confusing. In the section on opium we notice an admirable paragraph as to the diagnosis of opium poisoning from conditions offering similar symptoms—e.g., alcoholic poisoning and cerebral hæmorrhage. The fact that in a book of this size only such an atom of adverse criticism is required as that we have made in reference to the potassium salts is equivalent to columns of praise. Dr. Hale White's book remains one of the very best treatises on the subject.

First Aid to the Injured and Sick. By F. J. WARWICK, M.B. Cantab, M.R.C.S. Eng., L.S.A.; and A. C. TUNSTALL, M.D. Edin., F.R.C.S. Edin. Sixth Edition. Bristol: John Wright and Sons; London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1910. Pp. 226. Price 1*s.* net.—We have spoken in praise of this little book upon several previous occasions, and can but repeat our praise of this the sixth edition. Some little new matter has been added, the number of illustrations has been increased, and six of them are now coloured. The chapter on Poisons has been rewritten, and altogether the book is one which can be safely recommended.

Some Common Remedies and Their Use in Practice. By EUSTACE SMITH, M.D. Lond. London: H. K. Lewis. 1910. Pp. 112. Price 3*s.* net.—These papers are, the author informs us in his preface, reprinted from the *British Medical Journal* of 1908 and 1909. They deal with antimony, turpentine, iron, alkalies, antispasmodics, opium, and the salicylates in certain serous affections. They are sound and practical and may well be read in conjunction with Dr. W. Murray's "Rough Notes on Remedies." We are glad to note that Dr. Eustace Smith calls tartarated antimony an unjustly neglected remedy, for it is certainly one possessing great value. His paper upon opium and also the one upon the salicylates are most suggestive, and we cordially welcome the appearance of the papers in book form. In another edition the error of "Vinum antimonialis" on p. 5 should be corrected.

Spiritualism and Insanity. Pp. 53. Price, cloth, 1*s.* 6*d.*: paper, 1*s.* *Religion and Insanity.* By CHARLES WILLIAMS, L.R.C.P., L.R.C.S. Edin. London: The Ambrose Co., Limited. 1909. Pp. 117. Price, cloth, 2*s.* 6*d*; paper, 1*s.* 6*d.*—These two little books may well be considered together. As to the first, it is an *exposé* of the dangers of Spiritualism, and as Mr. Williams states that he was at one time closely connected with Spiritualism as the president of a local Spiritualistic society, he naturally came much into contact with Spiritualists. He gives it as his own opinion that Spiritualism, by weakening and destroying the will-power, eventually leads to insanity in many cases. Whether it does this or not, Spiritualism is, where not a pure piece of charlatanry, an unwholesome and abnormal mental influence. The advice of Jerome Cardan to his son is as true now as it ever was: "Nolite credere vos daemones alloqui, aut mortuos videre, sed nec tentate, multa enim latent." "Religion and Insanity" is a plea for the use of religious influences in cases of insanity. We said upon a previous occasion that, in our opinion, the English Church might well imitate the Roman Church in the careful way in which the latter trains her priests in the matter of

mental troubles, and we can but repeat that remark again. The temperament which is prone to be upset by the worries inseparable from everyday life is just that which is likely to lead to insanity. A kindly word of advice from one experienced in the various forms of mental distress may be of inestimable value. But there must be the experience. We have always felt the clergy might render help in a class of case which is now very difficult to aid, but they must be properly trained if they are to supplement medical work in this direction.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A DEBATE ON SYSTEMATIC INSTRUCTION IN PSYCHIATRY.

AN Extraordinary Comitia was held on March 3rd, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

A communication was received from the Secretary of the Royal College of Surgeons of England reporting proceedings of the Council on Feb. 10th last.

The following communication was received from the Medico-Psychological Association of Great Britain and Ireland:—

SIR,—I am instructed by the committee of the Medico-Psychological Association of Great Britain and Ireland to approach the universities and other examining bodies on the subject of post-graduate instruction in Psychiatry.

It has long been felt by those most intimate with the subject, that there is in this country no adequate systematic instruction in psychiatry. The evils of this neglect become year by year more manifest. This association is impressed with the urgent necessity for post-graduate teaching in psychiatry in medical schools, and for the granting of a special diploma to candidates after examination, as has already been done with such conspicuous success in public health and tropical medicine. The position of psychiatry as a branch of medicine is unsatisfactory; it is not properly affiliated to other departments of medicine, to their mutual detriment; and under present conditions cannot make full use of those modern methods of research which have resulted in such advances in general medicine.

Young medical men on their appointment as medical officers to asylums find themselves face to face with work and problems of which they have had no previous knowledge, and in preparation for which they can obtain no systematic and scientific training or teaching. As is well known, lectures on psychological medicine and pathological laboratories have been established here and there, and in one or two universities chairs of experimental psychology have been founded; but there is no systematic course of instruction and no recognised diploma at the end of such course. It is submitted that the time has now arrived when such a course and diploma should be established in the principal medical schools of this country, and a diploma in the subject should be instituted by the examining bodies. My association is of opinion that the institution of a diploma would impose a high standard of acquirement on the officers of asylums, would stimulate the scientific study of insanity, and would have an effect in widening and deepening our knowledge of the subject, comparable with the effect produced in public health and tropical diseases by the institution of diplomas in these subjects.

In this letter it is unnecessary to enter into details as to the time required for this post-graduate work and the subjects to be studied; probably each university and examining body will form its own views on these points. I may say, however, that my association considers that the minimum period should be one year; that, provisionally, the subjects should be divided into (*a*) compulsory and (*b*) optional; that in the former should be included (1) anatomy, physiology, and pathology of the nervous system; (2) psychology, normal and morbid; (3) clinical pathology; (4) clinical neurology; (5) psychiatry—systematic, clinical, and medico-legal. The optional subjects suggested are—(1) experimental psychology; (2) bio-chemistry; (3) bacteriology; (4) comparative anatomy and physiology of the nervous system; (5) eugenics. It is suggested that only one optional subject be required of candidates. The council of my association respectfully asks that its proposals may receive earnest consideration, so that in the near future it may be possible to place the teaching of psychiatry on a sound scientific basis, and so bring it into line with other special departments of medicine in this country. I am, Sir, your obedient servant,

CHAS. MERCIER, President (1908-09).

To the Secretary, the Royal College of Physicians, Pall Mall East, London.

The PRESIDENT, in asking Dr. Mercier to open a discussion on the subject, remarked that the proposal to grant a diploma in psychiatry opened up a very large and important question. There seemed to be a tendency to establish various specialties on similar grounds, and there was a danger in a course of this kind of losing touch with general medicine, so that the problem might easily arise as to where such propositions might end. He referred to the proposal that had previously been before the College to grant a diploma in tropical medicine. After long and careful deliberation it had been decided not to grant a diploma but to attach a certificate to the diploma of those candidates who showed an adequate knowledge on that subject. He therefore thought that careful consideration would be required before coming to a conclusion on the matter then before the College.

Dr. C. A. MERCIER moved the following resolution:—

That a committee be appointed to settle the conditions under which a post-graduate diploma in psychiatry shall be granted by this College.

He said that he had signed the letter as a ministerial act in his capacity as President of the Medico-Psychological Association, but did not commit himself personally to approval of all its details. With its main tenour, however—the desire to obtain a Diploma in Psychiatry—he was in heartfelt accord. It was an undoubted and deplorable fact that psychiatry was lagging behind other departments of medicine and had not participated as much as other departments in the striking advances that have been made in the last few decades. Without doubt this was in part due to the inherent difficulty of the subject, but it was due also in no small degree to the fact that the junior staff of asylums who, by reason of wealth of material, abundant leisure, and freedom from financial cares, were in an exceptionally favourable position for research, were deterred from undertaking research by lack of incentive. No scientific work that they might do in any way bettered their position, increased their reputation with their employers, or assisted them to promotion. Moreover, so little importance was attached to knowledge of insanity by those who appointed the heads of asylums that medical men were sometimes placed in this position without any knowledge of insanity at all, and without having had any previous experience of the insane. The institution of a diploma in this subject could scarcely fail to have the same effect that it had had in the department of Public Health, of educating public bodies into an appreciation that special knowledge was necessary and ought to be required of persons appointed to these responsible posts. There was, he thought, no more justifiable specialty in the profession of medicine than that of psychiatry. Former occupants of the chair adorned by their present President had admitted to the speaker their entire want of knowledge of the subject, and in doing so had not derogated from their high position. Like Esau, Psychiatry had seen its younger brother—that Jacob, Public Health—step in before it and supplant it in its birthright. Objections had been raised that this diploma might depreciate the value of the Licence, but he would point out that what was asked for was a post-graduate diploma. It was not intended—it would be impracticable if it were intended—to close the junior posts to Licentiates of this College; but it was felt that the possession of a special diploma ought to be a very high recommendation, if, indeed, it did not in time become, as he hoped it would become, a necessary condition for appointment to the higher posts in asylums. They were confronted with the fact that the committee of management of the two Colleges had reported unanimously against the institution of a diploma in tropical medicine and had advised the institution of a mere certificate instead. That report must be allowed due weight, but they had heard none of the reasons for the report; and he thought that report ought not to weigh with them unless they were assured that the two cases were, as the lawyers say, on all fours with one another. It might very well be that the reasons for refusing a diploma in tropical medicine did not apply to the case of psychiatry. He ventured to point out that the diploma in public health had been an unqualified success. It was eagerly sought after and taken by large numbers of medical practitioners. Was that the case with the certificate in tropical medicine? Was not the certificate in tropical medicine something of a failure? He moved that a committee be appointed to settle the conditions under which a diploma in psychiatry shall be granted by this College.

Dr. R. PERCY SMITH, in seconding the motion, said that instruction in psychiatry in this country was very imperfect, that the usual three months' course of lectures with a minimum of eight clinical demonstrations required of the student before qualification, and of which only the most diligent students made full use, could not be regarded as other than rudimentary. The greater number of examining bodies did not exact from candidates for their qualifying examinations any knowledge of mental diseases. He was not speaking of higher examinations such as the Membership

of the College or the M.D. of London, which latter can now be taken in mental diseases and psychology. The result was that a man entering on general practice found himself very ignorant of insanity. The object of the Medico-Psychological Association in suggesting a special diploma in psychiatry was to raise the standard for those specially engaged in the treatment of the insane, who wish to rise to the higher posts in asylums. While this country has been foremost in the personal and humanitarian treatment of the insane, other countries were outstripping us in facilities for clinical and pathological research and for teaching, and in the adequate medical staffing of asylums. The presence of psychiatric clinics in cities abroad in connexion with universities and general hospitals gave them an advantage. The institution of a special diploma to be regarded as a post-graduate qualification, which perhaps might in future be regarded as compulsory before promotion to higher posts in asylums, was looked upon as one means of furthering advance in the scientific study of insanity. Psychiatry might be fairly regarded as equal in importance to public health, in which subject the names of over 600 holders of a special diploma were in the College list. The recent establishment by the College of a certificate in tropical medicine instead of a diploma could not be regarded as a success. For many years the Medico-Psychological Association had granted a special certificate in psychological medicine after examination and had connected with it the valuable Gaskell prize and medal, but the certificate of a medical society could never have the importance of a diploma granted by such a body as the College. The Medico-Psychological Association might, however, claim to have done pioneer work in this matter, and it was hoped that the College would go further and lead the van in the institution of a special diploma. It was not proposed that a man should take this diploma before entering on asylum work, but after it had been seen that he was adapted for it and before promotion to the highest posts.

Dr. T. CLAYE SHAW said that for a great number of years he had insisted both in lectures and clinical teaching upon the importance of the study of psychology in a wide and comprehensive manner. To merely practise the treatment of insanity without a knowledge of psychology was like studying pathology without a grounding in physiology. The present treatment of insanity was in a parlous way, because many of those placed in the most responsible positions were very ignorant of psychology and the scientific aspects of the conditions of insanity, probably because the teaching and examination in the higher branches of the subject had not been sufficiently appreciated by the higher and authoritative boards. It seemed desirable that the College of Physicians should give recognition to the importance and the necessity of a more profound study of the subject in question. He did not agree that the governing bodies of asylums were indifferent to the scientific side of the subject, and he believed that if they understood that an authority like the College of Physicians insisted upon thorough competence in those who had to treat the patients they would appreciate the endeavours to attain it and would liberally grant such measures as were necessary for its accomplishment. He instanced the case of the London asylums where large grants had been made for the study of the pathology of insanity, laboratories provided, and money grants given for scholarships to those who took up the special line. He was aware that one of the medical societies did give a certificate for special study in the subject of psychiatry, but it possessed no authority, and therefore lacked the prestige which would be conferred by a diploma issued by the College of Physicians. He thought that any want of interest in psychiatry among the junior staff of asylums was due mainly to the general indifference with which the study of the higher branches of the subject was met, and he urged that whereas there was at present very remote prospect of advancement for the juniors they would feel that the provision of a higher and more distinctive qualification would entitle them to greater consideration for advancement and would save them from being left to haphazard selection. The public welfare demanded the highest accomplishments in this department of medical practice, and this could only be obtained by the compelling force of an authority such as this College possessed. He concluded by earnestly commending the proposed scheme to the sympathetic consideration of the Fellows.

Dr. G. H. SAVAGE said that at first he felt disinclined to support the suggestion of a diploma in mental medicine, but on further consideration he thought it would be beneficial. The University of London now granted an M.D. in the subject. He felt that lunacy practice was a very special one and that there was a very large and increasing body of men who were entering it as a life's work. He would not wish for the diploma to be considered except as the result of post-graduate work. The Medico-Psychological Association granted a certificate and had special honours examinations, but a diploma from the Royal College of Physicians would have much greater weight. He did not wish to prevent men not having the diploma from being appointed as assistant medical officers to asylums, but he hoped that after a year or more at an asylum it should be recognised that an assistant should prepare for the diploma examination. He believed this would be of great service as a stimulus to work. The older superintendents were good managers and that was about all; their knowledge of pigs was greater than that of pathology, and he wished to place English psychiatric medicine on a right and higher level than it had been. Again, when he said that he had had over 3000 applications from doctors for resident nervous and mental patients, it showed the necessity for men who have to treat such cases having something more than the knowledge required for a pass qualification. It seemed to him that there was reason enough to grant this diploma as a stimulus to assistant medical officers, as a guide to those who wish to place mental cases of a slight degree under skilled and proper care. It would be for the good of the profession and a gain to the public.

Dr. S. COUPLAND supported the resolution as tending to advance the study of mental diseases in this country, which in some respects had fallen behind other civilised States. He also felt sure that his colleagues on the Lunacy Commission sympathised with this view. For himself he regarded the proposal as likely to prove a valuable incentive to the clinical study of insanity, hitherto too much neglected in asylums, although of late years there had been a notable improvement in this respect, especially in the County of London. The records in asylum case-books were for the most part very meagre, simply complying with the statutory obligation to note the progress of a case at stated intervals, whereas it was obvious that in many of the insane the manifestations varied almost from day to day, and that much could be learnt from closer study and detailed record. Every encouragement should be given to asylum medical officers to pursue scientific study and research, and it was gratifying to note the growing desire, as evinced by the proposal before the College, to utilise to a far greater extent than formerly the clinical and pathological material in which these institutions abounded. In his own comparatively brief experience he had observed that the old idea of the asylum as merely a place of retreat for the segregation of the insane was being replaced by the recognition of its value as a hospital where cases of mental disorder could be studied as well as treated. He believed that the College would be doing much to advance this idea by conferring a diploma on those who had fully availed themselves of the opportunities afforded by asylum work, and that such encouragement in the study of a difficult and highly specialised branch of medicine would be of great benefit to the community.

Dr. NORMAN MOORE said: Our Licence is a guarantee to the public that its holder has received the education and attained the knowledge necessary to enable him to begin to practise his profession. It does not testify to prolonged experience but only to a sufficient experience for that purpose and also to the training which renders the holder competent to enlarge his knowledge in every or in any part of the medical art. If in the interests of the general public medical men ought to know more psychiatry, then that increased knowledge should be obtained by adding to the medical curriculum and not by depriving our Licentiates of one of the ways in which they are entitled to earn their living. It must be remembered that the minimum medical curriculum is five years and that a large proportion of men require six years to attain their qualification, and that it is therefore a very serious matter to add another subject, while, of course, every kind of knowledge is valuable. It is right, too, that having worked out the curriculum and passed his examination a man should not after qualification find his way into various fields of work barred by the necessity of

taking a special diploma such as this now proposed in psychiatry. The competence of a Licentiate for employment in any particular post may be proved by testimonials granted by those who have had opportunities of observing his work. Something has been said about a prospective examination inducing medical officers of asylums to work, but are examinations the best way of encouraging work at all times of life? Has not one often heard of men in universities who rightly longed to be free from the trammels of examinations in order that they might work thoroughly at some particular subject? A special diploma in psychiatry would necessarily be taken to indicate that Licentiates of this College who did not possess it were unfit to consider or to treat cases of mental disease and would thus take away their undoubted right to practise in every part of the medical art.

Sir WILLIAM S. CHURCH said that he was rather uncertain as to the exact intentions of those who supported the resolution. If it were proposed to establish a compulsory diploma in psychiatry he thought the suggestion was one which required the fullest consideration for those practising in the study and treatment of mental disease. All students were required to show a certain amount of knowledge in psychological medicine, and if such a degree were granted it might suggest that students obtained no such knowledge. If, however, only a post-graduate or honour diploma were suggested the objections he had named would not be so strong.

Dr. F. WARNER, Dr. M. CRAIG, and Dr. B. PIERCE having spoken in support of Dr. Mercier's motion, the PRESIDENT pointed out that Dr. Mercier's resolution assumed what was the question really before the College. It must first be decided whether the College should grant the diploma before the conditions of such a diploma could be considered.

Dr. F. J. SMITH proposed the following amendment, which was seconded by Dr. FREDERICK TAYLOR:—

That a committee be appointed to consider the letter from the Medico-Psychological Association of Great Britain and Ireland and report to the College.

After some remarks from Dr. W. P. HERRINGHAM, Dr. H. G. TURNEY, Dr. A. E. GARROD, and Dr. J. E. SQUIRE, the amendment was put to the College and carried, and being put as a substantive resolution, was carried almost unanimously.

The PRESIDENT then dissolved the Comitia.

BRITISH MEDICAL BENEVOLENT FUND.

FIFTEEN cases were considered at the February meeting of the committee and grants amounting to £133 made to 13 of the applicants. Appended is an abstract of the cases relieved:—

Widow, aged 39 years, of M.D. R.U.I. No income; for several years has acted as a housekeeper without salary in return for a home for herself and son—a boy who has recently gone to Epsom College. Is now endeavouring to obtain a paid post. Relieved 11 times, £131. Voted £10.

Widow, aged 63 years, of L.R.C.P., L.R.C.S. Edin. No income, and finds increasing difficulty both to obtain and to do needlework, by which she has partially supported herself for many years. Relieved 11 times, £117. Voted £12.

Daughter, aged 48 years, of late M.R.C.S. Eng. No income; dependent for shelter on brother-in-law whose means are very slender. Has undergone three grave abdominal operations and is unfitted for any permanent occupation. Relieved once, £10. Voted £12.

Daughter, aged 59 years, of late M.R.C.S. Eng. Used to be a governess, but now suffers from epilepsy which quite prevents occupation. Is given a home by a brother, a retired clergyman, who can ill afford it. Relieved twice, £22. Voted £10.

Widow, aged 60 years, of L.F.P.S. Glasg. Quite unprovided for at husband's death. Supports herself and an invalid daughter by selling sweets on commission. Relieved twice, £36. Voted £12.

Widow, aged 45 years, of M.B., B.Ch. Aberd. Has supported herself by nursing, but at present is incapacitated by ill health and dependent on a sister and children who can ill afford to help. Relieved twice, £15. Voted £10.

Widow, aged 40 years, of L.R.C.P. Edin. Since husband's death several years ago has acted as a caretaker to a surgery, living free of rent but receiving no salary. Is given slight help by relations and endeavours to earn a little by painting. Three children, two at institutions, and the youngest, aged 8 years, a cripple, living at home. Voted £10.

Wife, aged 47 years, of L.R.C.P., L.R.C.S. Edin. Asks for help because of the total incapacity of her husband, whose means have been exhausted by a long illness and who has been confined to bed for the last six months. Three children, aged 14–10 years. Only source of income a small weekly allowance from a medical sickness fund. Voted £12.

L.R.C.P., L.R.C.S. Edin. Has been entirely incapacitated by illness for the last two years and is dependent on two sisters who keep a small school. Three children, aged 30–28 years, who with difficulty support their mother. Voted £10.

Widow, aged 53 years, of M.B., C.M. Aberd. Receives a few shillings a week from a small house and earns a few pounds in the summer by taking boarders if obtainable. Is not in good health and asks for help to obtain a short change which she is strongly advised to have. Voted £5.

L.S.A., aged 59 years, used to practise in South Africa, but after acting as a civil surgeon during the war found it impossible to re-establish himself owing to the influx of medical men. Obtained some temporary work in this country, but contracted X ray dermatitis, and is at present incapacitated. Children only help to a very slight extent. Voted £10, with leave to apply again if necessary in six months' time.

Widow, aged 70 years, of M.R.C.S. Supported herself for several years by acting as companion, but finds it increasingly difficult to obtain engagements. No income, no children. Relieved five times, £45. Voted £10.

Widow, aged 61 years, of L.F.P.S. Glasg. No income; no children. Receives home from a friend in return for such services as she can render. Health indifferent. Relieved once, £12. Voted £12.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 15, Wimpole-street, London, W.

CAXTON CONVALESCENT HOME, LIMPSFIELD, SURREY.—On March 5th the annual meeting of the supporters of this home for all connected with the great printing industry was held at the St. Bride Institute, Mr. C. J. Drummond, vice-president, presiding. The report congratulated the subscribers on the success which had attended the work of the home during the past year, over 135 convalescents having passed through. The committee earnestly appeals for financial help to liquidate the building debt of £900 incurred for extensions. The report was adopted and the officers were re-elected.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Feb. 24th, with Dr. F. H. Champneys in the chair. A recommendation from the Penal Cases Committee in regard to a certain midwife was that she should be cautioned as to her methods of practice, and "especially as to discontinuing attendance on the tenth day in cases where the patient is then not well." The solicitor to the Board said it had been argued that if a patient could not get up a midwife should not cease attendance. Mr. E. Parker Young pointed out that the wording might be misunderstood in the case of a midwife who ought to send for a doctor. After the chairman had observed that a midwife should not leave a patient who was ill it was agreed that the words should be altered as follows: "especially as to her duty with regard to advising medical help in a case where the patient is not well." A letter was considered from the clerk of the Council transmitting a copy of a report by Dr. S. Monckton Copeman, medical inspector of the Local Government Board, on an outbreak of pemphigus occurring in the practice of a midwife. The Board decided that the Privy Council be asked to furnish copies of the report for the use of members of the Board. A letter was considered from the Local Government Board transmitting a copy of the proposed circular to boards of guardians dealing further with the payment of medical practitioners summoned on the advice of a midwife in cases of emergency, and with the supply and training of midwives. The Board decided that the Local Government Board be thanked for its letter, and that it be informed that the Central Midwives Board approves the proposed circular. A letter was considered from the Registrar of the University College of South Wales and Monmouthshire applying for permission to hold the written examinations at the College at Cardiff, with forms of undertaking signed by Professor D. Hepburn, Dr. E. J. Maclean, and Mr. H. T. Samuel, the proposed supervisors. The Board decided that permission be granted. A letter was considered from Mr. C. E. Longmore, clerk of the Herts county council, forwarding a copy of a resolution passed by the county council as to the conduct of the penal business of the Board. A draft letter to be sent to local supervising authorities asking their opinion as to the suggestion of the Herts county council that on the hearing of a charge against a midwife the local supervising authority should have the conduct of the case was settled, and the Board directed that the letter be circulated to the local supervising authorities.

THE LANCET.

LONDON: SATURDAY, MARCH 12, 1910.

The Compulsory Notification of Epizootic Diseases.

AN Order with the short title "Animals (Notification of Disease) Order of 1910" has been issued by the Board of Agriculture and Fisheries, which marks an important step in the public control of infectious disease in animals. The Order is made under the Diseases of Animals Acts, 1894 to 1909, and it applies only to those diseases which have already been scheduled under the Acts—namely, cattle plague, contagious pleuro-pneumonia of cattle, foot-and-mouth disease, sheep-pox, sheep-scab, swine fever, anthrax, epizootic lymphangitis, rabies, glanders and farcy (Article 1). By the terms of this Order, which will come into operation on April 1st next, a veterinary surgeon or veterinary practitioner registered under the Veterinary Surgeons Act of 1881, who in his private practice is employed to examine an animal or the carcass of an animal must, if he is of opinion or suspects that one of the above-mentioned diseases exists therein, notify an inspector of the local authority. He must also, in the event of the disease being cattle plague, contagious pleuro-pneumonia of cattle, foot-and-mouth disease, sheep-pox, swine fever, epizootic lymphangitis, or rabies, notify a police constable of the police area, who must transmit the information by telegram to the Board of Agriculture and Fisheries, addressed "Agrifi, London" (Article 2). It should be explained that for administrative purposes the police act as inspectors under the Diseases of Animals Acts. It would follow from this Order and a perusal of the portions dealing specially with the diseases last mentioned, that the Board of Agriculture considers the questions involved of such importance from an epizootiological point of view that it desires to be immediately notified of outbreaks or suspected outbreaks, and it is of interest to observe that five of the diseases—namely, cattle plague, foot-and-mouth disease, contagious pleuro-pneumonia of cattle, epizootic lymphangitis, and rabies—have all been successfully stamped out of Great Britain under the policy of the Board.

Article 2 also provides that on receipt of notice an inspector of the local authority shall transmit the information to the local authority, and in the case of anthrax and glanders and farcy also to the medical officer of health of the sanitary district in which the animal or carcass is. The latter part of the section is a useful provision for the purpose of warning the public health authorities that a dangerous disease of animals which is communicable to human beings exists in their district, and the information may obviously assist in the formation of an important diagnosis in a human patient. We might have considered this article to be more complete had rabies and foot-and-mouth disease been included in the list to be notified to the medical officer of health, but the omission seems to be of less consequence since these diseases have been stamped out of the country, and very elaborate precautions are taken by the Board to prevent them being reintroduced. By providing in its Orders that medical officers of health are to be notified of cases in their districts of disease in animals of a kind communicable to man the Board of Agriculture has taken the first step in a policy which might with advantage be made reciprocal. There are many cases of anthrax in man which are contracted by direct contact with a diseased carcass, and the majority of cases of glanders in human beings are due to contact with a diseased horse. It is by no means always that the veterinary health authorities have heard by notification of the existence of the disease on the premises where the presence of a diseased animal has led to a human being becoming infected, and early information that such a thing has occurred would expedite inquiry regarding the existence of other cases amongst the animals. The provision for notification in this Order is in addition to any notification prescribed by any existing Orders of the Board dealing with the diseases concerned. These make it obligatory, under penalty, for the owner or person in charge of an animal affected, or suspected of being affected, with the disease to which the Order applies to notify a police constable of the police area in which the animal is, and the same applies to a person having had such an animal in his possession or under his charge. The new Order further provides that when a local authority receives under this Order or otherwise information of the existence or suspected existence of disease in the carcass of an animal which died or has been slaughtered in the district of another local authority, it shall forthwith transmit the information to the other local authority. Not the least important article of the Order deals with the fee for notification, and states that a veterinary surgeon or veterinary practitioner who notifies disease under and in accordance with this Order is entitled to receive a fee of 2*s.* 6*d.* from the local authority for each notification, but it is provided that only one fee will be payable for a report relating to two or more animals or carcasses examined at the same time on the same premises.

The similarity between this Order and the Infectious Disease Notification Act is apparent, and as that Act has had important bearings on the practice of State medicine, so we may expect this Order to inaugurate a new phase in the history of the public responsibilities of the veterinary profession. Its evolution can be traced in a previous Order of the Board of Agriculture and Fisheries, the proceedings of the Royal College of Veterinary Surgeons, and those of the Public Control Committee of the London County Council. The previous Order of the Board was the London (Notification of Glanders) Order of 1906, which applied only to the County of London, and related only to the notification of glanders. No payment of a fee, however, was provided for, as the Board at that date had no power to prescribe one. For some time there had been a feeling in the veterinary profession that in the absence of an Act or Order providing for compulsory notification of

disease its members were placed in a very awkward position, for while desiring to aid the authorities by informing them of cases of contagious disease occurring in their practice, their doing so was liable to be looked upon as a breach of professional confidence by their clients. The Royal College of Veterinary Surgeons, however, protested against the 1906 Order on the principle that a compulsory professional service should be provided for by at least a nominal fee. A deputation from the College waited on the Public Control Committee of the London County Council and pointed out that the profession felt aggrieved that the principle of a fee had not been recognised, and this the more because the Board had expressed themselves in favour of the principle and had suggested the insertion of a clause empowering payment in the next General Powers Bill. It was then resolved by the Public Control Committee to apply for the necessary powers. With the object of extending compulsory notification to the country at large and to any disease of animals if thought necessary, Lord CARRINGTON, President of the Board of Agriculture and Fisheries, introduced a Bill in the House of Lords in September, 1909. This Bill became the Diseases of Animals Act, Chapter 26, which is dated Nov. 25th. The Act provides that a fee not exceeding 2*s*. 6*d*. shall be paid to veterinary surgeons or veterinary practitioners for notification of disease, and that the diseases for which a fee shall be paid and the amount of the fee not exceeding 2*s*. 6*d*. shall be in accordance with an Order made under the Act, such as has now been issued.

The veterinary profession are very favourably disposed to the new position thus created, and it should receive a welcome from all medical officers of health. The connexion between infectious diseases in man and animals has not yet received the close study that is its due, and both scientific and administrative collaboration is undoubtedly desirable between sanitarians and veterinarians. The story of plague has given us a terrible lesson in the epizootic origin of epidemics, and in this country it seems probable that human glanders is of increasing occurrence. The whole question of animal tuberculosis obviously concerns medical men and veterinary practitioners in almost equal proportion, and we could multiply instances to show the close relationship that should exist between the public practice of the two professions.

The Cause of Beri-beri.

FROM time to time during the past year we have laid before our readers in these columns the results reported in respect of the investigations into the origin of beri-beri carried out at the Medical Research Institute of the Federated Malay States by Dr. HENRY FRASER and DR. A. T. STANTON (vide THE LANCET of Feb. 13th and 20th, May 8th, and Oct. 9th, 1909). These investigators have now embodied their most recent conclusions in a paper which was read on Feb. 18th before the London Society of Tropical Medicine. Their previous work in the Malay Peninsula, it may be remembered, had confirmed the view that the occurrence of beri-beri was intimately associated with the consumption of white rice, and that neither the parboiled variety nor yet the rice prepared in Malay fashion by primitive methods of pounding or winnowing gave rise to the disease. Their researches went to prove also that beri-beri is not a "place disease," that it is not communicable from man to man, that it is not due to the use of stale or deteriorated rice as such, nor to a poison derived from decay; and that it is not due to a specific organism, fungus, mould, germ, or spore.

In THE LANCET of Oct. 9th, 1909, we commented on the previous interim report issued by the experts of the Medical Research Institute. At that time their attention was being more particularly directed to the chemical analysis and histological examination of rice derived from various sources. In parboiled rice, remnants of the pericarp remain attached to the rice grains, whereas in white rice the pericarp and the layers subjacent to it are polished away in the process of milling. Parboiling renders the rice grain tougher and less friable, so that the peripheral layers cannot be removed so readily as in white rice. In these layers thus retained in parboiled rice are contained most of the aleurone and oily material present in unbroken rice. At one stage of the inquiry there appeared to be a suggestion that this difference in the amount of fat in the two kinds of rice might be found to account for the development of the disease. The deficiency of fat theory of the origin of beri-beri has been advanced by some experts, and the experience of the Japanese navy seemed to afford support to the hypothesis. But Dr. FRASER and Dr. STANTON have now come to the conclusion from their own observations, supported by a series of experiments on domestic fowls, that a deficiency of fat does not afford a complete explanation of the origin of beri-beri. Experiments with fowls have clearly showed that these animals, when fed on various sorts of rice, were sensitive to differences in them, and it was established that this reaction might be taken as an indicator of the beri-beri producing power of a given rice. Rices were available which were known to have caused the disease in man, and when fowls were fed with them polyneuritis gallinarum was developed, this malady being truly analogous to beri-beri in the human subject. Other fowls kept under identical conditions but fed on parboiled rice remained healthy during the whole period of the experiment. Parboiled rice, which had been subjected to exhaustion with hot alcohol and then dried in the sun to free it from alcohol, when given to fowls produced polyneuritis just as white rice did. It was therefore inferred that something in the outer layers which are milled away in white rice and retained in parboiled rice could be added to white rice to prevent its giving rise to beri-beri. From a rice mill at Singapore were obtained (1) a quantity of original "padi" then being milled, in this case a partially husked padi imported from Indo-China; (2) a quantity of the finished product as it came from the machine; and (3) a quantity of the polishings from the same rice. Fowls fed on the unmilled rice for five weeks remained healthy, while fowls fed on the milled rice during the same period developed polyneuritis. Further, fowls fed on milled rice and also with some polishings made into an emulsion and conveyed by a tube into their crops remained perfectly well. It was likewise shown that fowls fed on the original padi after it had been prepared

by a native woman in Malay fashion remained healthy. The inference drawn from these experiments is that it is the milling process which is at fault, and that in that process something is removed which is essential to the maintenance of the normal nutrition of nerve tissue. At this point of the investigation it was decided to determine the amount of phosphorus, calculated as phosphorus pentoxide, in the various kinds of rice, and it soon became apparent that the phosphorus content of the different rices varied with their known harmful influence: that is, the less phosphorus contained in a given rice the more likely it was to cause polyneuritis gallinarum in fowls, and, on the other hand, the higher the phosphorus content the less liable was the rice to produce that disease. On analysis a sample of parboiled rice, which though given for some weeks to fowls failed to produce any effect on their health, was found to contain 0·469 per cent. of P_2O_5; a sample of white rice which had produced polyneuritis in fowls yielded only 0·277 per cent. of P_2O_5, while a sample of rice polishings used in the form of emulsion in the experiment mentioned above was found to contain no less than 4·2 per cent. of P_2O_5. The cause of beri-beri is, therefore, put down by these experiments to be an insufficient amount of phosphorus in the articles of food forming the dietary. It is interesting to mention in this connexion that at a recent meeting of the German Society of Tropical Medicine Dr. H. SCHAUMANN conjectured that beri-beri would ultimately be found to be a disease of metabolism associated with a diet deficient in organically combined phosphorus.

The results of the investigations carried out by Dr. FRASER and Dr. STANTON are summarised as follows: Beri-beri is associated with a diet of which white rice is the staple article; this white rice as produced in the mills loses substances which are essential for the maintenance of the nutrition of nerve tissue; these substances exist in adequate amount in the original grain, and in superabundant quantity in the polishings from white rice; the estimation in terms of phosphorus pentoxide of the total phosphorus present in a given rice may be used as an indication of the beri-beri-producing power of such rice when forming the principal constituent of a dietary. The prevention of the disease will be achieved by substituting for the ordinary white rice a rice in which the polishing process has been omitted or carried out to a minimal extent, or by the addition to a white rice diet of articles rich in those substances in which such rice makes default. One such article, which is cheap and readily obtained, is the polishings from white rice. The use of parboiled rice will achieve a like result provided the polishing process is not carried beyond the limited extent now customary. These results are extremely interesting and important; and all who have concern with the prevention of this hitherto mysterious disease will look forward eagerly for the full report which has been promised by Dr. FRASER and Dr. STANTON.

NATIONAL UNIVERSITY OF IRELAND.—The Senate of the National University of Ireland has recognised St. Patrick's College, Maynooth, as a constituent College of the University.

The Diagnosis of Tuberculosis by Means of the Deviation of Complement.

THE application of the Bordet-Gengou phenomenon of the deviation of complement by means of an antigen and its antibody to the diagnosis of disease has proved fruitful in more than one direction, notably in regard to syphilis by means of Wassermann's reaction, and also in hydatid disease. The same method has been employed as a diagnostic procedure in tuberculous disease by M. MARMOREK.[1] We have received a copy of a paper giving the results of the application of this test to a series of cases by M. A. BERGERON.[2] He obtained by its means results which he claims are very encouraging, since they agreed with the clinical findings in 204 out of 213 cases. The principle of the test depends upon the fact that an antigen in the presence of its specific antibody can combine with it through the agency of a third thermolabile substance, which exists in all serums and is known as complement. If to the mixture of antigen, antibody, and complement be added a second antigen and its specific antibody, their combination will be prevented, owing to the absence of free complement, if this has been all utilised in the previous reaction. To apply the test the filtered urine of the patient is used as the first antigen, since according to M. MARMOREK it contains the tuberculous toxin in cases of active tuberculous disease. For antibody the simple antituberculous serum of M. MARMOREK is used—i.e., a serum specially prepared for this purpose by the immunisation of horses against the tubercle bacillus. The complement employed is that of guinea-pig's serum; the indicator or second antigen is supplied by a 1 in 10 dilution of sheep's red corpuscles, and the antibody by the serum previously heated to 56° C. of a rabbit rendered immune to sheep's corpuscles. The details of the method of procedure are: in a sterile small glass tube 0·2 cubic centimetre (four drops) of fresh filtered urine is placed with 0·3 cubic centimetre (six drops) of antituberculous serum and 0·05 cubic centimetre (one drop) of fresh guinea-pig's serum. The mixture is left in the incubator at 37° C. for one hour. At the end of this time 0·3 cubic centimetre of a 1 in 10 dilution of sheep's red corpuscles is added, together with that quantity of hæmolytic serum which is necessary to destroy these corpuscles in 45 minutes. The mixture is again returned to the incubator for an hour and then examined for hæmolysis.

M. BERGERON divided the 213 cases in which he has applied this test into three groups—the first comprising the tuberculous cases; the second those in which there was a suspicion clinically that the disease might be tuberculous; and the third the non-tuberculous cases. In the first group there were 133 cases, 131 of which showed either a complete absence of hæmolysis or a partial degree. Only two cases gave total hæmolysis and both were apyretic; the first appeared to be the subject of a torpid or quiescent form of the disease, but the second, dying from a non-tuberculous affection, was nevertheless found to show

[1] La Presse Médicale, No. 2, Jan. 6th, 1909.
[2] Ibid., Jan. 1st, 1910.

definite bacillary lesions. Among these 133 cases there were 114 cases of pulmonary tuberculosis, all with more or less fever, and 14 cases of serous membrane tuberculosis, the remainder being cases of osseous, intestinal, and renal tuberculosis. In the second group, comprising the suspicious cases, there were only six patients and these gave varying results. In the third group, that of cases clinically non-tuberculous, there were 74 patients, of whom 67 gave complete hæmolysis. The cases comprised instances of influenza, pneumonia, broncho-pneumonia, emphysema, enteric fever, rheumatism, and other general and local ailments. Seven of the cases showed a partial hæmolysis only, giving an indication not in agreement with the clinical features of the patients. M. BERGERON therefore concludes that the method is of value, but that it is not infallible.

A paper on the same subject is recorded in the *Comptes Rendus des Séances de la Société de Biologie* of Jan. 15th by M. D. JACOBSON. This observer has tried to render the reaction more sensitive by using a smaller quantity of complement, so that there shall be less likelihood of any remaining over from the first antigen-antibody combination. He therefore employed half a drop of guinea-pig's complement instead of a drop. He examined 160 urines—68 from non-tuberculous cases and 92 from patients suffering from that disease. Of the 68 non-tuberculous cases 66 gave complete hæmolysis with half a drop of complement. Among the 92 tuberculous cases 38 showed complete or partial absence of hæmolysis with a whole drop of complement. The remaining 54 gave complete hæmolysis. They were afebrile cases in good general condition, with latent or strictly localised lesions. On testing them with half a drop of complement 38 showed partial or complete absence of hæmolysis. M. JACOBSON concludes that even in latent tuberculous disease, where there is no evidence of general intoxication, small quantities of toxin may occur in the circulation, and may be able to be demonstrated on using smaller quantities of complement instead of the quantity originally recommended. These observations are of considerable interest, and the method may prove to be of great practical value in diagnosis, since it has the merit over the recent diagnostic procedures involving the use of tuberculin on the patient that it does not produce any disturbance of the patient and can be carried out in the laboratory.

Annotations.

"Ne quid nimis."

MEDICINE, LITERATURE, AND BULWER-LYTTON.

WHEN in the winter of 1854 Sir Edward Bulwer (afterwards Lord) Lytton addressed the Associated Debating Societies of Edinburgh, of which he had been made honorary president, he dwelt on the fascination possessed by the healing art, particularly on its physio-psychological side, for all cultured minds, and concluded by offering a prize for the best essay on the inter-relations of the mental and the corporeal constitution of man. The successful competitor, among many drawn from every academic faculty, was the clinical assistant of Professor Hughes Bennett, Dr. John Glen, whose essay published in the following year held the field till further research, physiological and psychological, had wrought a radical change in the whole subject. Throughout his long and laborious life, indeed, Lord Lytton seldom ceased to be under the spell of the fascination on which he dwelt so eloquently, and Mr. Escott's brilliant monograph[1] comes opportunely, not only to revive interest in the author of "My Novel" with its admirable character sketch of Dr. Riccabocca, but also in the list of names, medical and surgical, associated with the theory and practice which found favour in the "thirties" and subsequent decades of last century. Quite early in the volume we are introduced to Dr. Elliotson, who, apart from the mystic side of his productivity, did much careful and suggestive work on the action of drugs, besides, by precept and practice, contributing largely to clinical resource, and who, moreover, laid the world under incalculable obligation by saving the life of Thackeray, whose gratitude finds measurable and touching expression in the dedication of "Pendennis." A later chapter makes the reader acquainted with the gifted Budd family, at least three of whom rose to high and wide reputation far beyond their West of England birthplace and sphere of activity—one of whom performed for Bulwer-Lytton and Benjamin Disraeli a service not less vital than Elliotson achieved for the author of "Vanity Fair." Bearing more or less directly on the healing art, the physical, particularly the chemical and bio-chemical, sciences, as Mr. Escott points out, had irresistible attractions for his hero, whose "Caxtoniana" are fraught with sympathetic allusions to Mary Somerville and Michael Faraday, and to their influence in widening and extending the mental horizon of the contemporary world. Not that all this genuine interest in the medical art and its congeners was unaccompanied with error, or for that matter with dangerous fallacy. In fact, the enthusiastic amateur, with his lapses into practice "adopted in haste and repented of at leisure," had his counterpart in Bulwer-Lytton, with his impulsive resort to quackery, till hard-earned experience taught him the truth of the adage that as "the amateur lawyer has a fool for his client and the amateur divine a quack for his priest and a gull for his congregation, so the amateur consultant has a dupe for his patient." Mr. Escott, as the conscientious biographer, makes no concealment of his hero's tendency to fads, as throwing light on that love of premature generalisation which to some extent mars the skilful plot, the vivid portrayal of character, and the finished, scholarly style which still reward perusal of his earlier work. Not till later in life, when the years that bring the philosophic mind had sobered and steadied his judgment, did Bulwer-Lytton make a full revelation of his powers in "The Caxtons," "My Novel," "Kenelm Chillingly," and "The Parisians"—works which form a counterfoil, nay, a positive rebuke, to a great deal that is profusely turned out and eagerly read in contemporary fiction. Abandoning the high *priori* road which starts from no premises and leads to no conclusion, he settled down to the study of real life in its typical developments, giving scope for the first time to the well-trained intellect which made Thackeray say of him (as Mr. Escott reminds us), "I would gladly give half of my reputation to be able to put the other half on a basis of scholarship and literature equal to Bulwer-Lytton's." This tribute, honourable alike to its author and its recipient, was worth reproducing, if only to attract the public to an author whose prose and verse, covering a wide and varied field of human experience,

[1] Edward Bulwer, first Baron Lytton of Knebworth. By T. H. S. Escott. London: George Routledge and Sons. 1910. One volume. Price 7*s.* 6*d.* net.

constitute for the careful reader something of a liberal education," conveying much useful, if recondite, knowledge, historical and social, and conducing to the masculine and robust development of character traditionally associated with the English name.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE annual meeting of the President and General Council of King Edward's Hospital Fund for London was held at Marlborough House on March 10th, His Royal Highness the Prince of Wales, President of the Fund, being in the chair. In order that there may be as little delay as possible in the distribution of the money at the disposal of this Fund a meeting of the council, which is really a preliminary annual meeting, is held at the end of each year, and the salient points of the proceedings on Thursday last will be found in our Annus Medicus for 1909 (THE LANCET, Dec. 25th, p. 1927) and in our issue for Jan. 1st of the present year (p. 59). The total receipts for the year 1909 were £258,926 3*s.* 2*d.* This sum was made up as follows: Donations, £12,145 6*s.* 11*d.*; contributions to capital, £279 3*s.* 10*d.*, together with £13,782 5*s.* 8*d.* net profit on realisation of securities; annual subscriptions, £23,615 2*s.* 7*d.*; contribution of the League of Mercy, £19,000; from the Lewis estate (exclusive of interest), £75,000; legacies (including interest on Lewis legacy), £46,401 18*s.* 5*d.*; interest from investments, £68,502 5*s.* 9*d.*; together with £200 from the trustees of the Bawden fund. The amount distributed was £150,000, being an increase of £10,000 over the sum distributed in 1908. The total sum distributed amongst hospitals, convalescent homes, and consumption sanatoriums since the foundation of the Fund now exceeds £1,000,000, the exact figure (after deducting grants to the extent of £4659 16*s.* 7*d.* that have been allowed to lapse) being £1,134,916 8*s.* 5*d.*

PURPURA HÆMORRHAGICA DUE TO BENZOL POISONING.

IN the *Bulletin* of the Johns Hopkins Hospital for February, Dr. R. Selling has reported a remarkable series of cases of benzol poisoning, which show the danger to which workers with this substance are exposed and that removal from its influence may not be sufficient to prevent a fatal result. The cases occurred among workers employed in the "coating room" of a factory for the manufacture of tin cans. A mixture of rubber, resin, and colouring matter dissolved in commercial benzol was used as a substitute for solder. 23 hands were employed in the room: 5 men as machinists, 4 girls as inspectors, and 14 girls between the ages of 14 and 16 at the coating machines. Amongst the latter most of the cases, and all the serious ones, occurred. One half of these girls fed the can covers to the machines, which automatically coated them about the margin with a thin layer of the mixture, while the other half removed the covers. The covers were then piled in trays, inspected, and allowed to dry by the evaporation of the benzol. Ten gallons of benzol a day were used. In spite of wide open windows and excellent ventilation a strong odour of benzol pervaded the neighbourhood of the machines and a weaker odour the rest of the room. The following is an outline of one fatal case. A medical practitioner noticed on June 1st, 1909, that a girl, aged 14 years, whose mother he was attending for pneumonia, had marked pallor and a purpuric eruption, though she felt well. Soon afterwards hæmorrhages occurred from the mouth and nose, and she was admitted into the Johns Hopkins Hospital on June 28th. She had been working at the coating machine for about four months during which she had no symptoms. She ceased work in consequence of her mother's illness. About a month before admission she noticed blue spots on her arms and legs which came out slowly, a few at a time. Soon afterwards bleeding from the gums, nose, and throat commenced. A few days before admission there was severe hæmorrhage from the throat, which was controlled with difficulty. For a week she had been in bed, the chief symptoms being weakness and giddiness. On admission she was well nourished, but her skin showed a waxy pallor, and her mucous membranes were very pale. There was a general eruption of macules from 1 to 3 millimetres in diameter, varying in colour from purplish-red to blue. On each shin was a large ecchymosis. The gums were slightly bleeding, but were not spongy. Extending from the left tonsil to the right anterior pillar of the fauces was a brown necrotic-looking mass surrounded by an inflamed border. This had been the site of severe hæmorrhage, which was controlled by the application of ferrous sulphate. The edge of the liver was felt 2 centimetres below the ribs. The fundi were pale and showed numerous hæmorrhages and neuro-retinal œdema. Continuous but slight oozing of blood from the mouth and throat took place and a few fresh purpuric spots appeared. Blood examination showed 1,090,000 red corpuscles and 480 white per cubic millimetre, and 11 per cent. of hæmoglobin. The temperature ranged from 99·8° to 104·6° F. On July 3rd the patient passed into a state of stupor, from which she could not be roused, and death occurred on the 6th. The necropsy showed fatty degeneration of the heart and liver and an aplastic condition of the bone marrow. Two other girls were also admitted into the hospital with similar symptoms, of whom one died. Examination of the other employees of the coating-room showed that two men and two girls had a few purpuric spots but were free from other symptoms. Blood examination revealed in them slight anæmia and leucopenia (the leucocytes varying from 3900 to 5200). A series of similar cases which occurred in a factory at Upsala for the manufacture of bicycle tyres has been described by Santesson.[1] Benzol was used as a solvent for the rubber. In these cases there was a marked purpuric eruption and four were fatal. It is noteworthy that the disease may progress in spite of the withdrawal from the influence of the poison.

THE MONTH OF FEBRUARY.

THE month of February of this year differed greatly from the corresponding period in 1909 both in England and on the continent of Europe, the temperature having been as much as 4° or 5° higher in many parts of this country, about 7° at Paris, Rome, Florence, and Biarritz, and 9° at Berlin. Throughout England and the adjacent regions of France it was also much wetter, rain falling with great frequency, and the total amount being far more than the normal. In spite of the frequent rain, however, fine, clear intervals were so numerous that over the kingdom generally the sunshine exceeded the average. In London (Westminster) the total number of hours (54) was 30 hours in excess of the normal for February. At Torquay, which appears to have been the brightest spot in the kingdom and also one of the most rainy, the climatic conditions were still more remarkable. The sun shone during 117 hours, which is only seven hours less than its record for February, while the total amount of rainfall was as much as 5·91 inches. Only one day passed without a measurable quantity of rain, and the very appreciable amount of 0·04 inch or more fell on 23 days. The total of 5·91 inches has only been exceeded in February once during the past 34 years. The Scilly Isles maintained their unrivalled reputation for equability of temperature, the

[1] Archiv für Hygiene, 1897, p. 336.

mean range between the day and night being only 6° and the highest temperature 52° in the shade. All the resorts in Southern Europe experienced greater warmth during the daytime, but the nights at Scilly were much milder than those at Nice, as mild as those at Biarritz and Palermo, and nearly as mild as those at Naples and Palma. The night temperature on the south-west coast of England generally was about equal to that of Florence and Nice. At Lisbon, Algiers, and Malta the temperature of the nights was as high as that of the afternoons in the warmest part of this country. Although Berlin was very mild for the time of year, it was colder than any part of the English Midlands, and Brussels was colder than Harrogate. The driest resorts in the southern regions were Lisbon, Nice, and Palma, the last named recording rain on only three days, while the wettest were Brussels and Biarritz, where rain fell on at least 24 and 20 days respectively.

ALCOHOL AS A FOOD.

IN spite of an immense amount of experience and investigation the value of alcohol in the treatment of disease still remains a subject of acute controversy. The modern tendency is to restrict its field of utility, and some authorities even go so far as to deny that it is of any use as a stimulant and regard it simply as a narcotic. That in a limited quantity it is a food is open to less doubt. In the last few years some important investigations have been made on the subject, principally by German writers. They are embodied in a useful paper contributed to the *Yale Medical Journal* for January by Dr. M. M. Scarbrough. The combustion of a moderate amount of alcohol, say, a quart of claret, 7 ounces of whisky, 1½ quarts of beer, or 2½ ounces of absolute alcohol yield about 500 calories of energy, about a fifth of the energy required by a person at rest. The first question that arises is, What proportion of alcohol taken by the mouth is utilised, and what wasted? Recent American investigations show that when 6 or 7 ounces of whisky are taken 98 per cent. is oxidised and 2 per cent. escapes by way of the breath, urine, fæces, or skin. German investigators, such as Rosemann, assert that as much as 13 ounces of whisky are thus consumed by the body. How does the availability of the energy yielded by alcohol compare with that of other foods? In the case of proteins 22 per cent. escapes in the urine as incomplete oxidation products, and 8 per cent. in the fæces, unused. Fats are oxidised to the extent of 95 per cent. and carbohydrates to the extent of 98 per cent. Thus alcohol stands on the same plane as sugar and starch in its availability for the production of energy. The question may be asked, Does alcohol interfere with the digestion and metabolism of other foods? Chittenden and Mendel found that in dilute solutions it does not retard the digestion of protein. Admitting that alcohol is oxidised in the body like other foods, is its energy utilised or wasted? On substituting alcohol for an equivalent amount of fat or carbohydrate in a diet just sufficient for the needs of the body wasting does not follow, showing that the alcohol is utilised. This is also proved by the fact that alcohol, like carbohydrate, has a fat-sparing action. When added to diet only sufficient to maintain weight it will cause the subject to gain weight. Further, like carbohydrate and fat, alcohol is a protein-sparer. This was proved last winter at Yale by experiments made by Dr. Hilditch on himself under the direction of Professor Mendel. Kochmann has recently shown that alcohol given subcutaneously in moderate amounts to starving rabbits prolongs life, and therefore suggests the subcutaneous administration of alcohol in various diseases. Is alcohol a source of muscular energy? This cannot be proved, but there is no reason to suppose that muscle cells cannot burn alcohol as they do other foods. However, there is evidence that strenuous muscular work, such as athletics, is better performed without alcohol. This is explained as due to the effect of alcohol on the nervous system. In what circumstances is alcohol valuable as a food? Dr. Scarbrough thinks it is valuable in many conditions of malnutrition, as it does not require digestion and is easily and readily absorbed. Further, it is one of the few foods which can be given subcutaneously. Its administration per rectum ought also not to be forgotten, as it is more readily absorbed even than glucose and weight for weight yields more energy. Lastly, but of great importance, is the use of alcohol in severe diabetes. For years this was known clinically, but whether the value of alcohol was due to its action as a drug or as a food was not known. In 1906 Benedict and Török in studying the origin of the acetone bodies in diabetes substituted alcohol for fat in the dietary and found a marked decrease in the excretion of acetone, sugar, and nitrogen. At the same time Neubauer found alcohol of great use in severe diabetes. He gave daily 12 to 24 ounces of a wine containing 10 per cent. of alcohol and found regularly a decrease in the output of sugar, acetone, oxybutyric acid, and ammonia and total nitrogen. The value of the alcohol is due to the fact that the organism utilises it as a food, sparing fat and protein, at a time when the tissues cannot utilise carbohydrates. But, apart from diabetes and a few conditions of malnutrition, there is no evidence that alcohol is a better food than carbohydrates, and there is some evidence that it is inferior to them.

ENZYMES IN THE LAUNDRY.

THE word "laundry" suggests to the minds of many people "chemicals," and the laundryman, rightly or wrongly, is often blamed for the holes in our linen and other fabrics on the assumption that he employs corrosive bleaches. Bleaches, however, may be legitimately used for the purpose and without any harm to the fabric whatever so long as they are scientifically applied and scientifically removed. In many cases a fabric comes to pieces because of its own inferior structure and substance. Nowadays it is common enough to find showy goods dependent upon mineral loading or other foreign substances which form, so to speak, the skeleton of the flimsy material. Should the skeleton yield, as it may do, even to the bland influence of soap and water, the fabric, having lost its "bones," readily disintegrates and the laundryman is blamed for using "corrosive acids" or a machine which attacks material like the "devil"—that is to say, like the appliance which is used for breaking up old carpets and cast-off clothing in the manufacture of mattress stuffing. No doubt the laundryman is at fault sometimes, but on the whole he is liable to suffer severely from a misrepresentation of facts. One of the latest applications of science to laundry work, to which the stern critics of soda, chloride of lime, or borax can raise no objection, is the use of diastase of malt to dissolve out the starch in soiled starched goods preliminary to washing. As is well known, diastase has the power of rapidly liquefying starch, converting it into soluble dextrin and ultimately malt sugar, which may readily be washed out of the fabric. In these days, when such powerfully active preparations of enzymes are possible, the method is likely to become general, and its adoption will relieve the laundryman of the odium of being a "chemicaliser." Generally speaking, however, the hydrolytic action of the enzyme is the same as that of an acid, but the latter is likely to injure the fabric unless very carefully used. The biological process can do no harm, and some day perhaps chemical agents may be abandoned in

favour of further biological processes which will produce the stiff linen without starch or borax.

THE TROPICAL DISEASES RESEARCH FUND.

IN no department of medicine have such signal advances been achieved of late years as in that of tropical medicine. Considering the comparatively small pecuniary encouragement which it has in the past received from the State for the purpose of scientific research, it is surprising to learn how much has been already accomplished. There are some signs that the Imperial and Colonial Governments are now more favourably disposed towards the efforts which are being made by the medical profession to prevent the ravages of tropical disease and to render some of our colonies more safely habitable. These remarks are prompted by the perusal of the recently issued annual report for 1909 of the Advisory Committee for the Tropical Diseases Research Fund. This committee was constituted in 1904, at which time the Imperial Government and various other bodies made themselves responsible for certain sums as annual contributions to the Research Fund for a period of five years. As that period terminated in 1909 the committee had to face the possibility of some at least of the contributors discontinuing their subscriptions. Fortunately, all the previous subscribers have agreed to renew their contributions for another period of five years, and there is also some prospect of further payments being received towards the fund from certain of the smaller British colonies which have not hitherto contributed. The total amount of revenue at the disposal of the Advisory Committee in 1909 was £3470, of which £1000 were contributed by the Imperial Government, £500 by the Government of India, £200 by the Rhodes trustees, and £1770 by various colonial Governments. The expenditure during the year amounted to £3333, of which £1383 were voted to the London School of Tropical Medicine, £1000 to the Liverpool School of Tropical Medicine, £750 to the University of London, and £200 to the University of Cambridge. Most of the money granted to these institutions was devoted to payment of the salaries of special professors or lecturers on tropical medicine, protozoology, parasitology, and economic entomology, also towards defraying part of the expenses of laboratories in which research work is carried out. It is obvious that much good is likely to follow this expenditure of money for special instruction in the various branches of tropical medicine to medical men about to proceed to our colonies and dependencies. In our opinion this wise expenditure is likely to bear good fruit in future years. No grant was made from the fund in 1909 towards the costs of the sleeping sickness investigations in Uganda for the reason that money for this purpose was forthcoming from other sources. Reference is made by the Advisory Committee to the work of the Sleeping Sickness Bureau, which in its opinion has amply fulfilled the hopes which were expressed in the report for 1908 concerning it. The Australian Institute of Tropical Medicine, towards the establishment of which the committee in 1908 contributed £400, has now been definitely constituted and a director appointed. Adequate contributions for its future maintenance will be obtained in Australia; the Universities of Sydney and Melbourne are also interested in the matter. A small bacteriological laboratory under the charge of a skilled bacteriologist has been established in the island of St. Lucia, and the Advisory Committee hopes to include in its report next year some record of the work done in the new laboratory. The committee was consulted by the Secretary of State for the Colonies as to a proposal to enlarge the Medical Research Institute for West Africa at Lagos, and plans were ultimately passed for extension of the building at an estimated cost of £2350. The committee has been greatly interested during 1909 in the question of malaria and its prevention. Appended to its report is a copy of a circular despatch which the Colonial Secretary addressed in March of last year to all the tropical colonies in which malaria is prevalent. Enclosed with the despatch was a reprint of a letter to the editor of the *Times*, by Professor W. Osler of Oxford University, on the subject of "Malaria in Italy: a Lesson in Practical Hygiene." Replies were invited from the various colonies as to the extent to which preventive measures against malaria had been carried out. The answers received show that on the whole a good deal had been done generally to combat the disease. Special attention was directed to the reply from Ceylon, containing as it did full and excellent statistics on the subject. Mention is also made that in Mauritius much had been done at a comparatively small outlay. In the colonies as elsewhere progress is hindered for want of funds and also by the attitude of many native races respecting measures for their own and others' benefit. An instance of this may be quoted from the report of Dr. D. M. Macrae, medical officer of the Bechuanaland Protectorate, who says that little can be done until the natives are educated up to some civilised ideas of disease and its prevention. At present they are largely in the hands of wizards and impostors, and notwithstanding a century of zealous missionary work among them and 25 years of administrative control the Bechuanas remain exactly where they were. Even the great medical missionary David Livingstone, who spent 13 years teaching them, was inclined to regard them as a "lost race." Hundreds of children and adults, says Dr. Macrae, have perished among the native population whose lives could certainly have been saved by the administration of quinine, yet though this drug is always within reach the natives somehow prefer to die rather than take any "white medicine." The committee append reports on the excellent work done at the Schools of Tropical Medicine in London and Liverpool; the report of the professor of protozoology at the University of London; an account of the work performed by the research student in entomology at the University of Cambridge and in the Quick Laboratory; a report on work done in the experimental treatment of trypanosomiasis under the supervision of a subcommittee of the Royal Society; and reports on the work at the several colonial laboratories, which have been sent in accordance with requests made by the Secretary of State for the Colonies. In these appendices are given the full details of the investigations carried out, and of the papers published in connexion with the grants made by, and under the supervision of, the committee.

CEREBRAL ABSCESS AND BRONCHIECTASIS.

IN the *Review of Neurology and Psychiatry* for February a case is reported by Dr. Edwin Bramwell of Edinburgh which presents unusual and interesting features. A man, aged 53 years, who had suffered from bronchiectasis for more than two years, complained one day of headache and giddiness. On the following day he had an epileptic fit, preceded by a visual aura, which was likened by the patient to the sensation one might expect if a bright light from a mirror were flashed into the eyes from time to time. A second identical fit followed two days after the first. Examination revealed a right homonymous hemianopsia for white, complete in extent but only relative in degree. Further, the patient was unable to recognise a red object as red to the right of the middle line. There was no visual aphasia of any sort, nor were there any other focal symptoms. The optic discs were normal. The diagnosis of abscess in the left occipital lobe was made, but increase in the severity of the pulmonary symptoms made operation inadvisable. Death ensued six weeks after the first cerebral symptoms had appeared. At the necropsy a

bilateral cellular bronchiectasis was found, with a secondary localised empyema. In addition to certain other intracranial lesions which need not be specified, an abscess of about the size of a walnut was discovered situated in the second and third left temporal convolutions, immediately anterior to the lateral occipital sulcus. Microscopical examination showed that the inflammation round the abscess had extended into the optic radiations. The interest of the case lies in the association of cerebral abscess with pulmonary disease and in the rarity of hemiachromatopsia as a symptom. The infrequency of the former of these is amply evidenced by the conclusions of the late Dr. G. I. Schorstein, who stated[1] that of 3700 necropsies at the Brompton Hospital during the years 1882 to 1904 inclusive, and of over 10,000 post-mortem examinations at the London Hospital from 1894 to 1904, there were only 19 cases of cerebral abscess associated with pulmonary disease. In his opinion, based on a consideration of further statistical data, bronchiectasis is the most frequent pulmonary antecedent of brain abscess. In the 19 cases the average duration of life from the appearance of the first cerebral symptoms was only ten days. Visual auræ in association with organic brain disease are indicative of cortical changes involving the occipito-parietal region, a subject to which attention has recently been directed by Sir William Gowers.[2] The existence of a hemiachromatopsia, coupled with a less pronounced hemianopic defect for white, is a phenomenon the exact significance of which is not yet clearly established, though it has been observed with some frequency. While it is possibly the case that the colour-blindness in the half field is due to the reduction in the light sense, hemiachromatopsia may occur by itself, sometimes when the optic tract or chiasma has been pressed on. Swanzy supports the view that a relative cortical hemianopia is a manifestation of a lesion of less intensity than that which causes cortical hemianopia, and in the present instance this interpretation of the symptom is probably correct.

ELECTROLYTIC DISINFECTANT.

SEVERAL sanitary authorities were invited on March 3rd to inspect the latest development of the plant installed at Poplar some years ago for the production of electrolytic disinfectant on a scale sufficient to supply the borough with fluid for ordinary disinfectant purposes. Considerable advances have been made since the plant was first laid down, and the present satisfactory stability of the electrolysing machine and of the fluid produced is due to the zeal and energy of the medical officer of health of the borough, Mr. F. W. Alexander. There used to be trouble with the original tanks adopted and the electrolysers, but now these have been replaced by porcelain containers which have overcome some peculiarly trying difficulties. There is an ingenious arrangement also by which the electrolysed fluid is stirred and kept uniform by electric motor paddles, and an improvement has been gained in the preparation of hydrate of magnesium, the addition of which serves to keep the electrolysed fluid perfectly stable. In Poplar the supply of current is on the three-wire system, so that one generator can be attached to the positive and the other to the negative pole, the neutral points being on the top and the "live" points below, and consequently "short circuiting" is avoided. The fluid, the disinfectant action of which depends upon the presence of active hypochlorites, is remarkably stable and is giving great satisfaction in sanitary practice. It is further an insecticide as well as a germicide and deodorant. One of the latest applications of the electrolysed fluid has been to clean the water in the swimming baths. The cost of production is comparatively small, and the improved plant works continuously without, it is said, giving any trouble.

[1] Abscess of the Brain in Association with Pulmonary Disease, THE LANCET, Sept. 18th, 1909, p. 843.
[2] Special Sense Discharges from Organic Disease, THE LANCET, Dec. 18th, 1909, p. 1806.

HENOCH'S PURPURA ASSOCIATED WITH INTUSSUSCEPTION.

ONE of the most striking forms of purpura is that to which the name of Henoch has been attached. While it cannot be said that our knowledge of the etiology of the several varieties of purpura is by any means complete, the evidence at present available appears to point to the presence in the blood-stream of some toxin which, by damaging the capillary walls, leads to a localised effusion of blood. The source of these toxins is, however, not always easily determinable, but when we find that one striking variety of purpura is associated with marked intestinal symptoms, and often with definite intestinal lesions, we are justified in thinking that the bowel is, in these cases at least, the source from which the toxin has been derived. There is perhaps at the present time a certain tendency to designate as Henoch's purpura all cases of purpura manifesting intestinal symptoms, and it is not easy to draw a well-defined boundary-line so as to mark off typical cases of Henoch's purpura from other varieties of the disease. It has been shown that in a certain number of the reported cases of Henoch's purpura an intussusception has been found to be present and demonstrated by operation. In the present issue of THE LANCET appears a record of an important case which was under the care of Dr. F. W. Collinson of Preston, which is remarkable both for the association of purpura with an intussusception and also for the recovery which followed enteric resection. The patient was a child, 4 years old, who developed two attacks of purpura on the legs at an interval of a day or two, on each occasion accompanied by abdominal pain. During the second attack the pain in the abdomen was so severe that the child was taken to the Preston Infirmary, where Dr. Collinson operated and found an irreducible enteric intussusception. This was excised, and by means of two Paul's tubes the bowel both above and below the resection was fully drained. Four days after the first operation the abdominal wound was reopened and end-to-end anastomosis was performed. Complete and rapid recovery followed, and we must congratulate Dr. Collinson on his success. The treatment of an irreducible intussusception in a child is extremely difficult. Complete resection and immediate anastomosis of the ends are nearly always followed by death, when the operation is performed on a small child; moreover, immediate anastomosis does not usually lead to rapid emptying of the large amount of accumulated fæcal matter, and any attempt to empty the distended bowel before completing the anastomosis could only serve by prolonging the operation to diminish the chances of the child recovering. We consider that the expedient adopted by Dr. Collinson was fully indicated in the circumstances, and in a matter like this each surgeon is justified in adopting that procedure which in his own opinion is best calculated to lead to the recovery of the patient. One risk of delaying the union of the bowel is the fear that wasting may result from the diminution of the absorbent area of the small intestine. This danger was obviated in the case we have quoted by the early performance of the operation of intestinal anastomosis. It is to be hoped that all cases in which intussusception is associated with purpuric eruption will be placed on record. Further, if a case of acute purpura should manifest severe intestinal symptoms the possibility of the presence of intussusception should be borne in mind, though it must not be forgotten that in cases

of Henoch's purpura localised patches of œdema may occur in the intestines and give rise to the appearance of blood in the stools.

IN a leading article last week we stated inadvertently that the new premises of the Royal Society of Medicine were to be situated at the corner of Cavendish-square and Henrietta-street. They are to be within a few yards of that site, at the West end of Henrietta-street on the north side, with a frontage on Wimpole-street. We are glad to hear that the building fund already amounts to £5250, and would remind our readers that £30,000 are required.

Dr. A. Howard Pirie, chief assistant in the X ray department at St. Bartholomew's Hospital, has been appointed by the council of the Röntgen Society as their delegate at the International Congress of Physio-therapy to be held in Paris at Easter.

THE report of the Inspector under the Inebriates Acts 1879 to 1900, for the year 1908 has been issued by the Home Office as a Parliamentary paper (Cd. 5044).

THREE cases of plague, with 1 death, were reported from Mauritius during the week ending March 3rd.

Looking Back.

FROM

THE LANCET, *SATURDAY*, March 10th, 1832.

FOREIGN VARIETIES.

To the Editor of THE LANCET.

SIR,—Having spent the last summer months in visiting the Parisian hospitals, I beg to communicate to you some observations that I have been enabled to make.

I am, Sir, yours,

C.F.* M.D. M.A.

* The signature has been authenticated.—ED. L.

BITTER TASTE OF QUININE.

Delicate women and children have at all times shown a dislike to bitter mixtures or pills. It has been found impossible to persuade children to take quinine; it is therefore a desideratum to know, that bark can be administered in a tasteless mixture. Cinchonine is perfectly tasteless when saturated with sulphuric acid; the bitter taste is perfectly disguised. Dr. Carron conceived the idea of applying it to practice, and has always succeeded in curing intermittent fever (the most rebellious) in children who could not be induced to take the sulphate of quinine. Put four grains of cinchonine into a spoonful of syrup, or orgeat, or other syrup, which the patient will find perfectly tasteless. Let the mouth be well rinsed; mix a glass of sugar and water, acidulated with Eau de Rabel, or sulphuric acid. The bitter mixture forms in the stomach.

H. S., aet. four years and a half, inhabiting a marshy country, attacked by a tertian. For six weeks injections of the sulphate of quinine have been used without success. The little fellow obstinately refusing to take the infusion or pills, cinchonine was administered as above, three times a day, with the happiest result; it was continued for three days after to ensure success.

SINAPISMS.

Mr. Faure, apothecary of Bourdeaux, has found that acids rather diminish than augment the irritating action of mustard, by preventing the formation of its volatile oil, which constitutes its virtue. This oil does not pre-exist in the flour of mustard; water is a necessary element to its formation. Sinapisms must then be prepared with water instead of vinegar, to render them active. M. Trosseau, who attends at the Hotel-Dieu for M. Recamier, has long observed the above action, but was ignorant of the cause.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Georg Jochmann, Director of the Department for Infectious Diseases in the Rudolf-Virchow Hospital, and Dr. Franz Müller, *privat-docent* of Pharmacology, have been granted the title of Professor.—*Breslau:* Dr. Freiherr von Pirquet, who was formerly in Vienna and is now Professor in Baltimore, has been appointed Professor of Children's Diseases in succession to Professor Czerny.—*Freiburg:* Dr. Hans Schelble has been recognised as *privat-docent* of Children's Diseases.—*Dorpat (Yurieff):* Dr. Landau has been recognised as *privat-docent* of Anatomy.—*Genoa:* Dr. Ernesto Bozzi has been appointed Extraordinary Professor of External Pathology.—*Jena:* Dr. Martin Zade has been recognised as *privat-docent* of Ophthalmology, Dr. Wilhelm Brüning as *privat-docent* of Otology and Laryngology, and Dr. Thiemann as *privat-docent* of Surgery.—*Kharkoff:* Dr. V. I. Chagovets of Tomsk has been appointed Extraordinary Professor of Pharmacology.—*Marburg:* Dr. A. Bauereisen has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Modena:* Dr. Lugaro, Extraordinary Professor of Neurology and Psychiatry, has been promoted to an Ordinary Professorship.—*Rome:* Dr. Eugenio Cassini has been recognised as *privat-docent* of Surgery.—*Strasburg:* Dr. A. von Lichtenberg has been recognised as *privat-docent* of Surgery.

MUNIFICENT GIFT TO THE UNIVERSITY OF LIVERPOOL.—On March 5th Mr. W. H. Lever, who has succeeded the late Sir Alfred Jones as chairman of the Liverpool School of Tropical Medicine, gave a luncheon at his residence, Thornton Manor, Cheshire, which was rendered memorable by an announcement that he had made a gift, representing a cash value of £102,000, to various branches of activity associated with the University of Liverpool. Mr. Lever, in a speech of welcome to his guests, said that having been appointed chairman of the School of Tropical Medicine he would do all he could to further the interests of the school. There could be no nobler idea than to make the tropics into a white man's country. Mr. Lever alluded to the fact that late last summer Lever Brothers completed the final settlement of the last action against the *Daily Mail* and other newspapers controlled by certain people in London. The result was that Lever Brothers secured £91,000 in damages. He told his solicitor at the time that he never intended that any of the money should go to himself. He had now got this money and had been looking around to see what he could do to get rid of it, and he thought of the University. Arrangements had been made with the owners of the old Bluecoat School at the rear of the pro-Cathedral for a lease for a number of years. During that time the University could have the option of purchasing the school for approximately £24,000. At any time when the University declared that it would exercise that option he would pay the money. If the school was not found suitable, or for any reason the University decided not to exercise that option, then he would pay £24,000 to build a structure adjoining the University in which certain faculties could be accommodated. In the meantime, while the Council of the University was considering whether it should exercise the option, he would pay the rent of the school. In addition to that he desired that three things with which he had been associated in connexion with the University should have some money found for them. In regard to the School of Tropical Research, that was going to be dealt with in some other way; at any rate, changes were taking place which enabled them to lay that on one side. There were the School of House and Town Planning, the School of Tropical Medicine, and the School of Russian Studies. It is interesting to know that the School of Tropical Medicine will benefit to the extent of £800 a year from the munificence of its chairman.

THE REFORM OF POOR-LAW MEDICAL RELIEF.[1]

BY C. THACKRAY PARSONS, M.D. LOND.,
MEDICAL SUPERINTENDENT, FULHAM INFIRMARY.

[THE first section of Dr. Parsons's paper was devoted to showing how great a proportion of pauperism is due to physical and mental incapacity, as many as 60 per cent. of the paupers under relief in England and Wales in January, 1908, having been found to be unable to earn their own living on that account. Besides those actually disabled by ill-health, those dependent upon them also became destitute through their afflictions, which accounted for a great deal more of the total pauperism. Dr. Parsons proceeded to describe the various methods in which the Poor-law gives medical relief, and in speaking of the increasing number of paupers who are treated in institutions he mentioned that 10·38 per cent. of all the deaths in the country in 1908 occurred in workhouses and workhouse infirmaries as against an average of 7·67 in the decade 1893–1902. He continued as follows:—]

It is obvious from a consideration of the effect sickness has in producing permanent incapacity and pauperism that it is to the interest of the community to ensure that medical relief, once it has been decided to give it, should be of such a character as to restore the individual as quickly as possible and as completely as possible to a wage-earning capacity. Judged from this point of view, the medical relief provided by Poor-law authorities, both in rural and urban districts, and even in its best form, that of the separate infirmary, has many and most serious defects. Without wishing to minimise these defects in the slightest—and I shall return to them in detail shortly—it is only fair to point out that the Poor-law authority has made some attempt at least to make provision for the treatment of the sick poor in every parish throughout the length and breadth of England and Wales. In this respect it stands in happy contrast with the sanitary authorities, so many of whom have grossly neglected their duties in the cognate work of the prevention of sickness and of the treatment of infectious disease. It is a curious fact that the Minority Commissioners, in their trenchant criticism of the Poor-law medical system, have done less than justice to the boards of guardians, whilst they have praised altogether too highly the work of the sanitary authorities. It is unfair to compare the few energetic sanitary authorities not with the few and energetic Poor-law authorities, but with the general mass of them. Over half the superficial area of England and Wales the rural district councils are both sanitary and Poor-law authority. And, inefficient as is the provision these councils have made for their sick poor, they have neglected still more their sanitary work, and have made absolutely no provision for isolation hospitals for the treatment of patients suffering from infectious disease,[2] obviously one of their most elementary duties. But, what is even more extraordinary is that, even in London and the large provincial towns where the public health service is most efficient, the sanitary authorities, with very few exceptions, have failed entirely to make any provision for the hospital treatment of phthisis, measles, whooping-cough, chicken-pox, puerperal fever, epidemic diarrhœa, erysipelas, and venereal disease—infectious diseases which directly caused more than 13 per cent. of the total number of deaths in 1908. They have equally failed to provide for the treatment of such contagious diseases as ringworm, ophthalmia, and scabies. In the case of all these diseases practically the only provision made for isolation has been made by the Poor-law authority, and patients suffering from them are often sent into the infirmary simply to prevent the spread of the infection to others. In the case of whooping-cough, measles, epidemic diarrhœa, and venereal diseases most sanitary authorities have not even taken the trouble to make them notifiable. Up to last year the same statement would have been true of phthisis, and it is interesting to note that long before most sanitary authorities interested themselves in phthisis, the medical officers of Fulham, St. Marylebone, and other London infirmaries were isolating their phthisical cases, and issuing leaflets to them, laying stress upon the infectiousness of the disease, the necessity of fresh air for its treatment, and the best methods to prevent the spread of the infection. Another curious fact is, that the authority which has dealt most efficiently with the hospital treatment of scarlet fever, diphtheria, enteric fever, ringworm, and ophthalmia, and the methods and hospitals of which have formed models for sanitary authorities to copy—viz., the Metropolitan Asylums Board—is a Poor-law authority. It is quite incorrect therefore to say, as the Minority Commissioners do, that the Poor-law medical service takes no thought for the prevention of disease. Even the ordinary clinical work of the Poor-law is in one sense preventive. The treatment of rheumatic fever, and the operative treatment of adenoids, varicose veins, and hernia—to take only a few examples—are directed as much to the prevention of future incapacity as to the relief of present suffering. It is unnecessary to labour the point further, and to draw attention to the gross neglect of sanitary authorities to carry out the duties laid upon them by the various Acts dealing with public health, or to the annual complaints in the report of the medical officer of the Local Government Board of the neglect of sanitary matters on the part of sanitary authorities and their officers, or to the inefficiency which springs from the fact that most medical officers of health are dismissible at the will of the local authority, a disability which does not apply to the Poor-law medical officer. Enough has been said to show that, with all its defects, the medical work of boards of guardians is better provided for and carried out than the medical work of sanitary authorities.

Nevertheless, the defects of the Poor-law medical service are many and grave. Firstly, both the Majority and Minority Reports draw attention to the fact that in too many cases patients do not seek or do not obtain medical relief until they have reached a stage when cure can no longer be expected. Many of the chronic cases in infirmaries and workhouses, now a permanent charge upon the community, might have been restored to a wage-earning capacity if they had received efficient medical treatment in the early stages of their illness.

Secondly, the service suffers from the fact that it is underpaid and understaffed. Several of the witnesses before the Royal Commission laid stress upon this. Mr. A. Fuller in his evidence says: "It is undeniable that the majority of medical officers, in or outdoor, are paid salaries miserably inadequate."[3]

Thirdly, the provision for the institutional treatment of the sick is often insufficient for their proper treatment. It will be convenient to consider this provision, firstly, in the small rural workhouses, and secondly, in the larger workhouses and separate infirmaries.

The provision for the sick in many of the rural workhouses seems to be extremely bad. Dr. J. C. McVail visited 16 such workhouses for the Royal Commission on the Poor-laws, and his report is a grave indictment of the condition of things he found in them. How many of the sick in workhouses are being treated under the unsatisfactory conditions he describes it is impossible to say. In 11 of 34 sick wards in rural workhouses he found the cubic space per bed definitely lower than the already low standards prescribed by the Local Government Board; in one case the allowance was only 269 cubic feet per bed. In at least 5 out of 14 rural workhouses the hot-water supply was more or less defective, a state of things which renders the proper administration of sick wards practically impossible. In other cases the arrangements for bathing and ventilation were inadequate or inconvenient. The most serious complaint against these rural workhouses depends, however, upon the inadequacy of the arrangements made for the medical treatment and nursing of the sick. The medical work is performed by a visiting medical officer, who, as in the case of the district medical officers, is usually underpaid, and has to provide all the drugs he uses out of his already inadequate salary. Dr. McVail points out that there is no provision of medical appliances or of instruments or appliances for operations in these workhouses.[4] The natural result here, as in the case of the district medical officer, is, according to the evidence given by the Local

[1] Part of a paper read at the Central Poor-law Conference at the Guildhall, London.
[2] Report of Royal Commission on the Poor Laws, p. 858.
[3] Royal Commission on the Poor-laws, App., vol. ia., p. 444 (25).
[4] Dr. McVail's Report, App., vol. xiv., p. 27.

Government Board inspectors and others, that the sick inmates do not receive the medical supervision and treatment which they require. Dr. McVail states that the nursing staff was insufficient in the majority of the rural workhouses he visited.[5] This statement is borne out by the evidence and reports of the Local Government Board inspectors. The serious nature of this condition of things is enhanced by the fact that in most of these rural districts no provision for the isolation of infectious cases has been made, and the provision of voluntary hospitals is quite inadequate. The Minority Commissioners say that this state of affairs, with its attendant preventable suffering and its potentialities for the creation of permanent incapacity and pauperism, exists over nearly half the superficial area of England and Wales.[6]

In some urban districts the condition of the sick wards in the workhouses is very little, if any, better than that of those in rural districts. Taken as a whole, however, there is a very great improvement, which reaches its highest development in the separate infirmaries of London and a few provincial towns. These separate infirmaries are so important a development, hold out so much promise of good, and present so many points for criticism, that it will be necessary to consider them in some detail. In some of them the arrangement and equipment of the wards are nearly all that could be desired, being better than in many of the older voluntary hospitals. Individual boards of guardians are, indeed, deserving of the highest praise for the courage which has led them to incur the heavy initial expense necessary to build and furnish a hospital in accordance with modern views of what is required in construction and equipment. Such praise is all the more their due because their enlightened action has often been the grounds for an outburst of abuse and ignorant criticism by the press. The only objection of any weight to these buildings is that, under present circumstances, they contain many chronic and incurable cases which could be treated quite as well in simpler buildings. Their value in the treatment of acute cases is, however, sufficient justification for their erection. It would appear to be an axiomatic proposition that if the community is to provide for the treatment of the sick poor it should devote its money chiefly to energetic treatment of those cases in which there is reasonable prospect of restoration to health, whilst reserving for incurable cases only such accommodation as is necessary to render their lot as comfortable as is possible. Yet the London newspapers covered the Hammersmith guardians with abuse for providing a modern hospital at a cost of £350 per bed for the treatment of patients, most of whom were curable under good conditions, whilst they chronicled without comment or with praise the fact that the Metropolitan Asylums Board had provided an asylum for imbeciles and dements, nearly all of whom were incurable, at a cost per bed approximately the same.

Unfortunately, however, all the separate infirmaries do not exhibit the same high standard of construction and equipment. In some, and especially in some of the older ones, one finds too often many sanitary defects, such as old and worn wooden floors with wide crevices between the planks, painted or distempered brick walls, the irregular surface of which it is impossible to keep free from dust, insufficient heating, ventilation, or lighting, and an absence of proper linen cupboards, of day-room accommodation for convalescent patients, and of proper bed-pan flushing sinks, &c. Some of them do not possess an operating theatre, and although in all of them all drugs and medical appliances are supplied by the guardians, often without any discussion on the simple requisition of the medical superintendent, still some are deficient in modern appliances necessary for exact diagnosis or for special forms of treatment. A table in Dr. McVail's report shows how individual infirmaries vary in this respect. In connexion with all such comparative tables it should be remembered that even in London the infirmaries vary very much in the character of the cases they contain. Some have far more senile and chronic patients and fewer surgical cases than others. For instance, in 1906 the number of deaths per 100 occupied beds varied from 20 at the City of London Infirmary to 129 at Fulham, whilst the average duration of each patient's stay was 113 days at the former infirmary and 40·4 at the latter.

I have prepared the following table showing how many of 28 metropolitan (including West Ham) and of 7 provincial Poor-law infirmaries possess certain appliances and arrangements necessary for treatment and diagnosis:—

Metropolitan infirmaries.	Operating theatre.	Open-air wards for phthisis.	X ray apparatus.	Radium applicator.	Electric bath.	Apparatus for faradism and galvanism.	Bacteriological laboratory.	Finsen lamp or similar appliance.	Milk steriliser.*	Apparatus for medical gymnastics.	Incubator for infants.
Camberwell	+	+	+	—	+	+	+	+	+	—	—
Fulham	+	+	+	—	+	+	—	—	—	+[1]	+
Lewisham	+	+	+	—	+	+	+	—	+	—	—
St. Marylebone ...	+	+	+	—	—	+	+	—	+	+[2]	—
West Ham	+	+	+	—	—	+	—	+	+	—	+
Islington	+	+	+	—	—	+	+	—	—	—	—
Kensington	+	+	—	—	—	+	+	—	+	—	—
Poplar and Stepney Sick Asylum ...	+	+	—	—	—	+	+	—	+	—	—
St. George's-in-the-East	—	—	+	+[3]	—	+	—	—	+	—	+
Chelsea	—	+	—	—	—	+	+	—	+	—	—
Hammersmith ...	+	+	+	—	—	—	+	—	—	—	—
Lambeth	+	+	—	—	—	—	+	—	+	—	—
Paddington	+	+[4]	—	—	—	+	—	—	+	—	—
Southwark	+	+	—	—	—	+	+	—	—	—	—
St. Pancras, South...	+	—	+	—	—	+	+	—	—	—	—
Bermondsey	+	—	—	—	—	+	+	—	+	—	—
Shoreditch	+	—	—	—	—	+	+	—	+	—	—
Bethnal Green ...	+	—	—	—	—	+	+	—	—	—	—
St. Pancras, North	+	+	—	—	—	—	+	—	—	—	—
Woolwich	+	—[5]	—	—	—	+	—	—	+	—	—
Wandsworth	+	—	—	—	—	+	—	—	+	—	—
Woolwich	—	+	—	—	—	+	—	—	+	—	—
Central London Sick Asylum	+	—	—	—	—	—	—	+	—	—	—
City of London ...	+	—	—	—	—	+	—	—	—	—	—
Greenwich	—	—	—	—	—	+	+	—	—	—	—
Holborn	+	—	—	—	—	—	—	—	+	—	—
Mile End	—[6]	+	—	—	—	+	—	—	—	—	—
St. George's Hanover-square ...	+	+	—	—	—	—	—	—	—	—	—
Total—28 infirmaries	23	17	9	1	3	22	16	3	16	2	3

* In some infirmaries the milk for the infants is bought ready sterilised.

Remarks.—[1] Plinth and rib-stool. [2] Boards for Frenkel's exercises. [3] On loan. [4] For males only. [5] Now building. [6] Operating theatre in contemplation.

Provincial infirmaries.	Operating theatre.	Open-air wards for phthisis.	X ray apparatus.	Radium applicator.	Electric bath.	Apparatus for faradism and galvanism.	Bacteriological laboratory.	Finsen lamp or similar appliance.	Milk steriliser.	Apparatus for medical gymnastics.	Incubator for infants.
Bristol (Eastville) ...	—	—	—	—	—	+	—	—	+	—	—
Bradford	+	—[1]	+	—	—	+	+	—	+	—	—
Birmingham	+	—[2]	—	—	—	+	+	+	—	—	—
Liverpool	+	+	+	+	+	+	+	+	+	—	—
Manchester	+	—	—	—	—	+	+	—	—	—	—
Nottingham	+	+	—	—	—	+	+	—	+	—	—
Sheffield	+	+	—	—	—	+	+	—	+	+	+
Total—7 infirmaries	6	3	2	1	1	7	6	2	5	1	1

Remarks.—[1] Sanatorium at Eastby. [2] Few beds on balconies.

It will be seen that great differences exist in the equipment of individual infirmaries, and the difference is even greater than the table indicates. In some cases, for instance, the operating theatre, the phthisical wards, and the bacteriological laboratory are excellently arranged and equipped,

[5] Idem, p. 28.

[6] Report of the Royal Commission on the Poor-laws, p. 858.

whilst in others the arrangements are more primitive and less satisfactory. The most striking points about the tables are that five of the London infirmaries still possess no operating theatre, 11 of them no open air wards for phthisis, and 12 of them no bacteriological laboratory. It is curious, too, how few have an X ray apparatus, and how few have any apparatus for electric baths, or for regulated exercises, especially when it is remembered how many cases of chronic nervous disease and chronic joint disease, capable of benefiting by such methods of treatment, are found in these infirmaries. Very few also (I have no exact figures) possess any means of giving massage, radiant heat, or hot air treatment to such cases. The reason is to be found in the fact that the London infirmaries are so understaffed, both as regards medical men and nurses, that it is difficult to carry out the ordinary ward work, and there is no staff available for these special methods of treatment.

The following table shows the medical and nursing staff in most of the London infirmaries and the number of beds :—

Infirmary.	Number of beds.	Medical staff.	Nursing staff (excluding matrons and assistant matrons).	Number of beds in Infirmary to each member of medical staff.	Number of beds in Infirmary to each nurse.	Other work done by medical staff.
Bethnal Green ...	669	4	89	167·5	7·5	Workhouse, 1430 beds.
Bermondsey	640	3	71	213·3	9·0	—
Camberwell	828	6	128	138·0	6·4	Workhouse, 867 beds; Children's Homes, 538 beds.
Sick Asylum, Cleveland-street	264	2	32	132·0	8·2	—
Chelsea	423	3	53	140·0	7·7	Workhouse, 1015 beds.
City of London ...	511	2	53	255·5	9·6	Workhouse, 511 beds.
Fulham	500	4	70	125·0	7·1	Workhouse, 727 beds; Children's Home, 80 beds.
Hackney	641	3	72	213·6	8·9	Workhouse, 1401 beds; Children's Home, 137 beds.
Holborn	613	3	62	204·5	9·8	—
Hammersmith ...	400	3	49	133·3	8·1	Workhouse, 520 beds.
Islington	800	3	113	266·6	7·0	—
Kensington	667	3	72	222·3	9·2	Workhouse, 1284 beds.
Lewisham	401	3	50	133·6	8·0	Workhouse, 543 beds; Children's Home.
Lambeth	679	5	88	135·8	7·7	Out-Relief Districts, 1–4.
Mile End	469	2	48	234·5	9·7	Workhouse, 502 beds.
Poplar and Stepney Sick Asylum ...	770	4	96	192·5	8·0	—
Paddington	284	3	35	94·6	8·1	Workhouse, 670 beds.
Southwark	786	4	100	196·5	7·8	—
St. Marylebone ...	744	3	79	248·0	9·4	—
St. Pancras, North	542	3	73	180·6	7·4	—
St. Pancras, South	400	3	50	133·3	8·0	Workhouse, 1583 beds.
West Ham	741	4	107	185·2	6·9	—
Wandsworth	667	4	92	154·5	7·2	—
Woolwich...	304	2	40	152·0	7·5	Workhouse, 619 beds; Children's Home, 38 beds.
Whitechapel	590	3	44	196·6	13·4	Workhouse, 755 beds; Children's Homes.
Shoreditch	515	3	56	171·6	9·0	Workhouse, 792 beds.
St. George's-in-the-East	394	2	39	197·0	10·1	Workhouse, 768 beds.

In comparison with these figures it may be noted that in the large London hospitals the average number of beds to each nurse varies from 2·0 to 2·6. It is often urged as a justification of the small nursing staff at Poor-law infirmaries, as compared with voluntary hospitals, that the number of chronic cases in the former makes a large nursing staff unnecessary. This argument is unsound. Bedridden and helpless senile, paralytic, and rheumatoid arthritic cases, such as occur so frequently in infirmaries and are never kept in hospitals, require much more nursing than any ordinary acute case. Again, much of the work that is performed by the students in hospitals has to be carried out by the nurses in infirmaries. As to the inadequacy of the medical staff, the table speaks for itself. It is obviously impossible for one man to examine and treat in accordance with modern methods 150 to 200 patients. No one familiar with the elaborate methods of diagnosis and treatment modern research has placed in the hands of medical men can doubt that this understaffing leads to the detention of patients for an unnecessary length of time and to some of them receiving inadequate treatment. This understaffing has another serious consequence in that it renders it extremely difficult for the most energetic medical officer to keep in touch with the rapid advances now taking place in medical science. Yet any failure to do so must result in serious consequences to the patients entrusted to his care. It is an extraordinary fact that notwithstanding the greatly increased range and complexity of a medical man's work to-day as compared with 30 years ago, the indoor Poor-law medical officer is actually expected to look after more patients to-day than he did then. The following table shows this[1] :—

—	1875.	1907.
Poor-law medical officers in workhouses and infirmaries (England and Wales) ...	747	1,016
Number of indoor paupers Jan. 1st	156,000	282,000
Number of indoor paupers to each medical officer	209	277

But understaffing is not the only evil from which the indoor medical service suffers. Like the outdoor medical service it suffers from the inadequacy of the salaries paid. It is obvious that in the case of separate infirmaries their efficiency and their economical administration depend very much upon the medical superintendent. If the patients are not to suffer, he should be a man with wide knowledge of and experience in his profession, and with special skill as an operative surgeon, and if efficiency is to go hand in hand with economy, as should be the case, he must be a man of exceptional administrative skill. To attract such men the salaries should be such as to compare favourably with those paid to similar officers under the Metropolitan Asylums Board and the London County Council. Unfortunately, such is not the case. The salaries paid to medical men in the infirmary medical service are almost invariably considerably less. It is depressing to the whole service to find one London board of guardians appraising the value of its medical superintendent at £300 per annum—a salary less than that of the senior assistant medical officer at the fever hospitals of the Metropolitan Asylums Board and at the asylums of the London County Council. A pernicious system has arisen by which the medical superintendent is remunerated partly by salary and partly by extra fees, the most important of which are the fees derived from the examination of lunatics. These fees vary very greatly with the different infirmaries, so that of two medical superintendents receiving the same nominal salary, one may be receiving, by the addition of extra fees, an adequate remuneration whilst the other is greatly underpaid. The position of the senior assistant medical officer, whose post is a most important one as he takes charge of the infirmary in the absence of the medical superintendent, is even worse. His salary is inadequate, he is not allowed to marry, and his chances of promotion are extremely small and depend more upon influence and chance than anything else. The consequence is these posts are, as a rule, held by young and inexperienced men, the best of whom naturally leave the service after two or three years' tenure of office.

In considering the medical staff of the Poor-law infirmaries,

[1] Public Health and Social Conditions (Blue-book), p. 57.

one thing which strikes one at once is the absence of any specialist staff such as is possessed by the voluntary hospitals. As a rule the medical superintendent specialises in some branch of medicine or surgery, usually being forced from the exigencies of his position to devote himself to operative surgery, and, not infrequently, the assistant medical officers take up some specialty, but it is obvious that this is a very imperfect solution of the problem. Some provincial boards attempt to meet the difficulty by staffing the infirmary with junior medical officers and appointing one or more visiting physicians and surgeons. This system in no way meets the requirements of the case and possesses many serious disadvantages. Its advocates claim for it that it reproduces at the infirmary the same system of medical attendance as has proved successful at the voluntary hospital. This is not the case. The visiting physician or surgeon at a hospital, in charge usually of 35 or 40 beds, knows every one of his cases, diagnoses, and directs the treatment of each. In the case of a Poor-law infirmary with 1000 beds or more, and a visiting staff attending for a couple of hours on alternate days, as is the rule, this is a physical impossibility. The treatment of practically all the cases is in the hands of the assistant medical officers, who are usually recently qualified and inexperienced men, and the visiting staff can see and advise on only a very small proportion of the patients. A physician or surgeon with hospital appointments and a private practice simply has not the time to give for the proper supervision of a large infirmary as well. Many other disadvantages arise from the absence of a resident medical superintendent of age and experience with a permanent interest in the infirmary and a sense of responsibility.

It has been suggested that a solution of the difficulty would be found in arranging that the voluntary hospitals should take all acute and curable cases and the Poor-law infirmaries all the chronic and incurable cases. The simplest answer to that is, that the voluntary hospitals have not enough beds to treat even the acute and curable cases which go to them at present. Their beds are always full, patients often have to wait days, and sometimes weeks, before a bed can be allotted to them, and cases which cannot wait are often sent on to the nearest Poor-law infirmary for treatment. Cases of burns, of appendicitis, of pelvic inflammation, of miscarriage, of cellulitis and erysipelas, of cut throat, of stricture, of fractured legs, pneumonia, acute bronchitis, meningitis, &c., have all been sent to my own infirmary from voluntary hospitals owing to this want of beds. In London the accommodation of the voluntary hospitals would have to be about doubled to enable them to take over the acute cases from the infirmaries. The cost of this alone would be enormous. Necessarily, since the guardians would have to pay for their cases, it would be their duty to insist upon some share in the administrative control of the hospitals, and the medical staff would insist upon being paid for their work for the guardians. Under such circumstances the hospitals would lose their voluntary basis and become State-aided hospitals. There may be two opinions as to the desirability of such a change, but there can be hardly any doubt that the time is not yet ripe for it.

The only practical solution of the problem—and the time has arrived when a solution must be found if the Poor-law patient is to be adequately, and therefore economically, treated—involves the enlargement of the present areas of Poor-law administration. The cost of equipping and staffing the special departments necessary would be prohibitive for single boards of guardians, and the number of patients in each union would be insufficient to justify it. With enlarged areas the cost would be reduced to a minimum and the whole of the Poor-law patients could be adequately treated without the expenditure of much money on new buildings. To take London as an example of what could be done. With the unification of the parishes and unions of London it would be possible to arrange a very complete system of classification of the sick contained in the infirmaries, fever hospitals, lunatic asylums, and workhouses. Some of the workhouses and older infirmaries could be used for the treatment of the senile and infirm class and of chronic incurable cases, including quiet dements, not requiring much medical treatment or nursing. The relief given to the asylums in this way would obviate for many years the building of new ones. The better infirmaries could be used for the treatment of acute and curable cases. Expenditure could thus be concentrated upon those who would benefit by and repay it most. At certain of these infirmaries wards could be devoted to, and properly equipped for, the treatment of special diseases.

It should be a condition of the appointment that the medical superintendents of these acute infirmaries should be men with wide general medical knowledge and experience who had specialised in either general medicine or surgery. In addition there should be a small number of specialists, devoting their whole time to the work, and recruited, if possible, from the service, each of whom would have charge of wards devoted to his specialty in some one or other of the acute infirmaries. It would be possible to send appropriate cases to these wards from other infirmaries, and in addition the services of such specialists should be available at any infirmary for cases it might not be desirable or necessary to transfer. The operative work at infirmaries where the medical superintendent was a physician could be done by one of the surgical medical superintendents, and *vice versâ*. It would probably be convenient to have a general physician and surgeon on the central body of specialists which would include also at least an ophthalmic surgeon, a surgeon for the ear, nose, and throat, a gynæcologist, a radiographer, and several dentists. In addition, whilst every acute infirmary should have a small laboratory for clinical pathological, and bacteriological work, it would be necessary to have a central laboratory with a skilled staff for special investigations. Other directions in which the specialisation of institutions would be found advantageous and economical suggest themselves at once. It would be easy to adapt one or more of the infirmaries to receive measles, whooping-cough, and chicken-pox, thus ridding the other infirmaries of diseases which it is so difficult to isolate properly in them; another might receive all maternity cases; a third might be utilised to receive all nervous cases; a fourth all gouty, rheumatic, and similar joint cases; a fifth all skin cases; and special arrangements would be made naturally for phthisis.

The great point is that the immense gain in efficiency which would result from this specialised treatment of different diseases could be brought about by the utilisation of existing buildings. In many cases no structural alterations would be needed; in others small adaptations would meet the whole necessities of the case. Though this system of classification and of specialism would be most easily worked in London on account of the concentration of an immense population in a small area, there would be no difficulty in arranging a similar scheme in the large provincial towns. In the rural districts it would be possible to convert one or more of the existing institutions into acute infirmaries as might be required. In many of these areas it would not be necessary to have a specialist whole-time staff, but arrangements could be made to call in specialists as required, or, in some districts, to transfer the case to London or to some other large town, where a Poor-law specialist staff was available. Other advantages of this enlargement of Poor-law areas would be that it would make for a more uniform treatment of the sick poor. Some areas would be better administered and equipped than others, but throughout each large area there would be a general uniformity of treatment, and, there can be no doubt, a general levelling-up of the worst institutions to the best in the area. There would also be a removal of the anomaly which exists now of some infirmaries and workhouses being overcrowded whilst neighbouring ones are not full.

[Dr. Parsons proceeded to discuss the question of what body is best suited to take over the administration of Poor-law medical relief and advanced arguments in favour of its concentration under one committee of the county council, which should also have control of the public health and lunacy work of the county and which would coördinate the work of the medical officers of health, the district medical officers, and the infirmary medical officer. He continued:—]

Under these conditions there will grow up in each county a large public medical service, which, if it is properly staffed, paid, and graded, with promotion occurring according to merit, and with inducements held out to its members to specialise, will attract ambitious and keen men to it.

Lastly, the clerk to the new medical committee of the county council or of the new county body should be a medical man chosen from amongst the senior men of the service. So many medical points would come before such a committee that no one else would be competent to advise it.

A medical man in this position would be able to save the committee many costly mistakes. The lines, then, upon which I think the Poor-law medical service should advance are: 1. The encouragement of the sick poor to seek medical aid at the earliest possible moment. The applicant for medical relief should be able to go straight to the Poor-law medical officer, and the necessary inquiry into his suitability for the receipt of medical treatment at the public expense should be considered afterwards. 2. The provision of all drugs and medical and surgical appliances by the Poor-law authority. 3. The increase of the attractions of the Poor-law medical service by increasing its emoluments and by encouraging its members to specialise. 4. The improvement and specialisation of existing institutions and their staff. 5. The enlargement of the present Poor-law areas to enable these improvements to be carried out economically. 6. The coördination of the Poor-law medical service, the asylum service, and the public health service under one body.

THE RECENT MALARIA CONFERENCE IN SIMLA.

WE published last week an abstract of a circular letter addressed by the Secretary to the Government of India to the secretaries to the Provincial Governments covering the official report of the proceedings of the Imperial Malaria Conference held at Simla in October, 1909. We now publish the resolutions and recommendations made by the Conference and printed at the end of the official report.

I.—SCIENTIFIC INVESTIGATIONS.

1. That the Conference is much impressed with the need of further knowledge of the following subjects and recommends that steps be taken without delay for their systematic investigation:—1. The distribution of malaria. 2. The epidemiology and endemiology of malaria including (*a*) meteorological and physiographical conditions, and (*b*) the life-history of malaria-bearing mosquitoes. (3) The physiological and therapeutical action of quinine and other remedies for malaria.

2. A critical examination of the vital statistics of each province should be undertaken with the object of ascertaining the different degrees of prevalence of malaria and the areas which may be regarded as typical for the purpose of further test and investigation. In this connexion the Conference invites attention to the researches conducted by Captain Christophers in the Punjab.

3. Vital statistics are now collected by villages and are compiled by areas such as *thanas* and *taluks* which are often so large as to obscure the true distribution of malaria. The Conference are of opinion that local governments should provide for compilation by some smaller units, such as villages, village unions, *zails*, patwari's circles, &c. The figures thus compiled need not be published, but should be kept on record at convenient centres.

4. The Conference considers that the existing vital statistics of provinces will throw much light on the distribution and relative prevalence of malaria if the figures for fever are corrected by the results of test inquiries in selected typical areas. Such test inquiries should be carried out in every province by a special staff under careful supervision.

5. Where investigations into the epidemiology and endemiology are undertaken, special attention should be paid to tracts in which malaria is not endemic with the object of discovering the reasons why such localities are free from the disease.

II.—AGENCY BY WHICH INVESTIGATIONS SHOULD BE MADE.

1. The Conference having learnt that the Government of India will appoint a Central Scientific Committee to direct and coördinate investigations, and that they will also appoint at the request of local governments or on the recommendation of the Central Committee officers to carry out investigations, recommends that a local organisation to work in consultation with this Central Committee be constituted in each province. The nature of such organisation should be settled by the local government, and may take the form of the Sanitary Board.

2. A Conference consisting of the members of the Central Committee and a delegate from each local organisation should be held annually at such place as may be convenient for the purpose of reviewing the work done and preparing a programme of future work.

III.—PRACTICAL MEASURES.

A.—Extirpation of Mosquitoes.

1. As the extirpation of the anopheles mosquito is obviously the most complete and satisfactory solution of the malaria problem the Conference recommends that investigations be continuously carried on with the object of ascertaining by what methods this can best be done at a cost which is not prohibitive.

2. The Conference makes the following recommendations regarding the measures for extirpation or reduction of mosquitoes which have been placed before them:—

(1) *Drainage:* (*a*) In urban areas where the existing surface drains are found to be the chief breeding place of anopheles mosquitoes, a properly graded surface drainage is a most important antimalarial measure. (*b*) Though in rural areas the construction of any system of masonry drains is impracticable on account of the cost, yet it is advisable to improve the surface drainage in malarious localities by removing obstructions and filling up depressions in which water stands and anopheles mosquitoes are known to breed. (*c*) Both in villages and towns the lowering of a high subsoil water level when practicable is an antimalarial measure of primary importance. The deliberations of the Conference have shown that it will not be possible to protect rural areas by any scheme of drainage which is financially practicable, but it has been found that in some highly malarious tracts the level of subsoil water has been materially lowered with great permanent benefit by drainage operations, the cost of which was not prohibitive. Similar schemes should be investigated in each province for highly malarious localities. (*d*) The Conference is unable to make any general recommendation regarding the prohibition of wet cultivation in close proximity to dwelling houses, for while there is evidence of good results having been obtained by that measure in some localities, there is also clear evidence that malaria is in no way a necessary consequence of irrigating land near towns and villages. Every case of the kind requires separate investigation. When it is established that malaria in a town is due to anopheles mosquitoes breeding in wet cultivation in the immediate vicinity, such cultivation should be prohibited or restricted whenever possible. (*e*) In Italy some success has been attained in filling up marshes by turning rivers on to them and thus reclaiming them by successive deposits of silt, and the Conference draws attention to this method. (*f*) The clearance of jungle and the thinning of over-dense tree growth are desirable in all places in the neighbourhood of habitations where these conditions impede drainage and shelter mosquitoes.

(2) *Oiling.*—Treatment with petroleum should be restricted to small collections of water which contain the larvæ of anopheles mosquitoes, and cannot be filled up or drained.

(3) *Fish.*—It should be ascertained by inquiry and experiment whether the breeding of anopheles mosquitoes is greatly checked by the presence of fish in tanks and other collections of water; and if this is found to be the case endeavours should be made to introduce suitable fish where their presence is likely to prove beneficial, and to afford protection to them where they exist.

B.—Quinine Treatment and Prophylaxis.

1. The Conference adopts the conclusions of the subcommittee regarding the quantity of quinine required (i) for treatment of malaria, and (ii) as a prophylactic. (*a*) Quinine should be given in the form of sulphate or hydrochloride for adults; (*b*) for children some palatable form, such as tannate, is recommended.

2. Generally speaking, the method of selling quinine by treatments is to be preferred to that of selling by the dose, but in order to meet the wants of the poor it is advisable that both systems should be maintained. It is suggested that the ordinary size of the tablet should be one of 5 grains, which is the proper prophylactic dose for adults.

3. The agency for the sale of quinine should not be limited to postmasters, but the services of all grades of officials should be utilised; special attempts should be made to induce private vendors to engage in the business; and the educated classes should be asked to organise means of spreading a knowledge of quinine among the lower classes. The rate of commission should be liberal.

4. In order to disseminate a knowledge of quinine as widely as possible, recourse may properly be had to moveable camps, itinerant dispensaries, leaflets, notices and advertisements, especially in the vernacular papers, and to teaching in all grades of schools.

5. The free distribution of quinine should as a rule be resorted to only in the case of severe epidemics. This rule will be open to exceptions at the option of local governments, especially in backward tracts where quinine is unknown, and in the case of school children in malarious tracts and during the malaria season for prophylactic purposes, provided that arrangements can be made to secure that the quinine is actually taken.

6. General measures of quinine prophylaxis, such as the sale of Government quinine by all available agencies and the dissemination of a knowledge of the benefits it confers, should be carried out as widely as possible. More specialised and expensive methods, such as moveable camps and the distribution of free quinine to adults and children, should ordinarily be confined to selected areas.

7. The Conference is informed that the maximum output of the Indian factories is limited to 100,000 pounds of sulphate of quinine, which would be sufficient to treat about 3,000,000 people; and that the world's supply has for some years been stable at 1,000,000 pounds, or enough to treat about 30,000,000 people. These facts have an important bearing on the possibility of treating malaria by quinine. In the event of the supply from the Government factories proving insufficient, it will be necessary to purchase quinine in the open market. In any case the Conference think hydrochloride of quinine should be procured by purchase and should not at present be manufactured in the Government factories. It is desirable that the area under cinchona should be increased.

C.—Education.

1. The local organisation in each province should frame a scheme for instructing the inhabitants of malarious tracts regarding the main facts connected with malaria. Such instructions should be given by lectures, illustrated if possible by magic lantern slides, and by leaflets, and pamphlets in the vernacular languages. Private medical practitioners should also be invited to disseminate a correct knowledge of the subject.

2. The Education Department should arrange to include in textbooks, lessons on malaria and hygiene, and to give similar instructions in normal schools.

3. The Conference strongly recommends the constitution of divisional and district committees of the nature suggested by Sir Herbert Risley, and of local societies similar to the league started by Mr. King with such success in Gurdaspur. Such committees and societies should consist of both officials and non-officials.

D.—Sanitary Staff.

It is desirable that the Sanitary Department should be organised with reference not only to general sanitation, but also to the suppression of malaria.

E.—Finance.

1. Each local government should be invited to make a special allotment of funds every year for the investigation of the problems connected with malaria and measures of prevention.

2. The Conference recognise that the amount of this allotment will depend upon the state of the provincial finances, but they would urge that the prevention of malaria has a strong claim upon all surpluses and increases of revenue.

3. Municipal councils and local boards should also be urged to set apart funds for the prevention of malaria.

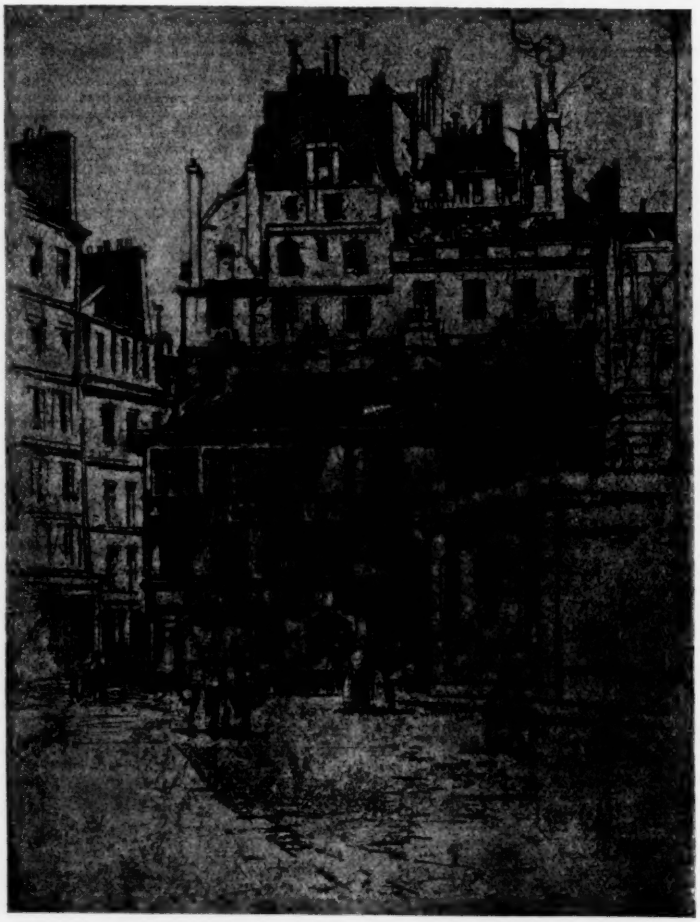
MAISON BARLIER

(RUE DE L'ABBAYE, PARIS).

BY H. MACNAUGHTON-JONES, M.D.

THE Maison Barlier was built in the meadows of St. Germain des Prés—formerly the scene of the celebrated Foire de St. Germain—including Notre Dame des Augustins, St. Serverin, St. Julien Le Pauvre, and St. Germain des Prés—churches where the early monk physicians held their meetings and stored their treasures before they acquired a building of their own. The fairs at first were mostly devoted to the sale of sacred objects as figures of saints and religious pictures, or in honour of a dead saint; but in time they became purely commercial, and offered pleasurable attractions for students and others. That of St. Germain was the oldest and most important fair in France. It was held as far back as the twelfth century. But for some time there was a restriction placed on these fairs, until Louis XI. in 1482, by letters patent, authorised the monks to re-establish their fair, and in 1486 they constructed on the ground belonging to the Hôtel de Navarre as many as 340 booths for the use of the merchants. In 1512 they were repaired and modified by the Abbé Guillaume Briconnet, but on March 16th, 1762, they were destroyed by fire. After this the fair was held in a large quadrilateral walled-in space, with a great court, and it was constructed so as to accommodate a large number of merchants. The fair was the scene of great gaiety and conviviality—"du vin et toujours du vin, belle etait la coutume du temps. La Foire St. Germain etait un champ toujours ouvert à la galanterie! C'est encore Scarron qui nous apprend:—

> 'Foire, ou l'on vend moins d'affiquets
> Que l'on vend de chair humaine,
> Sous le pretexte des bijoux.'"



Maison Barlier (from an etching by Katherine Kimball). The site of the ancient fair of St. Germain, and the meeting place of the ancient monk physicians and the resort of the medical students in the sixteenth and seventeenth centuries.

From an inscription under an old engraving of the seventeenth century we find that it commenced on the 3rd of February, and lasted for 15 days, and was often prolonged beyond this. The merchants held their tenancies from those who, at the beginning of the century, owned the Abbaye St. Germain. The spot on which the building was erected was originally called the "Jardin de Nesle."

Thither occasionally went the King and Queen with all their court. Indeed, to this brilliant rendezvous went all grades of society of every calling and occupation, from the artisans and exquisitely dressed courtesans to the court favourites. It was always a condition to the privilege of taking a lady to the fair that the gallant should make her a present. Nor were pickpockets any idler in those days or less apt than they are at present. "Especially," says Nemeitz, "have you to be careful of those who cry at the entrance, 'Gardez vos poches.'" At night the fair was brilliantly lighted and the crush sometimes was enormous. Hither the Portuguese and Spanish brought their chocolate, first introduced by Alphonse Louis du Plessis, brother of Cardinal du Richelieu, the Portuguese having special privileges in regard to its sale. But for ages before the conquest of Mexico by Spain the Mexicans had drunk their "Chocolatl" from their "choco" tree (Theobroma cacao), "latl" signifying water, not the compound chocolate mixture as we now know it. The use of chocolate was then very popular, and in 1663 the Medical Faculty endorsed this use by its approval. The very nutritious and sustaining properties of this highly charged carbohydrate and nitrogenous, heat-giving food are best known to our mountain climbers and long-distance runners. Coffee was then, we are told, regarded as a "curiosity." It became better known through the patronage of Marie Theresa, Spanish Consort of Louis XIV. Armenians served it at the fair of St. Germain.

It is interesting to note that the Arabic name given to coffee was "gahweh," which signified wine, showing that the Easterns early recognised its stimulating properties.

The story of coffee takes us into the misty past of Ethiopia, its *seeds*, not berries, as they are often erroneously called, having been first imported into Europe (Batavia) from Abyssinia and Arabia. Few realise that the beautiful evergreen from which these seeds are obtained is a most attractive tree, very different in its wild state, when it reaches to over 20 feet in height, to that which we see in hothouses, nor has it the pyramidal shape which it is made to assume in cultivation. Its snow-white flowers, nestling in the axils of its leathery, oblong leaves, exhale a delightful perfume, the deep scarlet fruit making exquisite contrasts for the greater part of the year, as the trees continue in blossom for some eight months. The Armenians who served up the coffee in the booths at the fair of St. Germain were probably better instructed in the

preparation of the seeds than most of our modern cooks. They used the Mocha beans and roasted these themselves. Nor was the coffee adulterated with chicory and caramel and many other substances which alter its flavour and impair its dietetic value, the proper roasting of the beans, influencing as it does their weight, volume, and aroma, being the main factor in the successful preparation of coffee. The Austrian or Norwegian peasant can give our English cooks many points in "making a cup of coffee." The latest innovation in this beverage—viz., the abstraction of the alkaloid caffeine from the bean—has imported a new element into the value of coffee. One can speak from experience that the flavour and refreshing properties are preserved and the objectionable physiological and therapeutical effects of caffeine are absent.

The "Mount Parnassus" of the medical students' song, with its well-known chorus, "Toujours, toujours, vous avez tout, mon cœur," was probably in the near neighbourhood of, though not comprised in, the original enclosure of the fair. It may have been some elevation in the neighbourhood of the Boulevard Montparnasse, near the Observatory at the end of the Boulevard Mont St. Michel, where it crosses the Boulevard Montparnasse and where the famous students' ball, the Bal Bullier, is still held.

For much of this information I am indebted to René Fauvel's "Les Étudiants de Médecine de Paris sous le Grand Roi," and to Miss Katherine Kimball (Royal Society of Etchers), a print of whose excellent etching of the Maison Barlier, exhibited in the Salon in 1908, accompanies this descriptive sketch.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8691 births and 4650 deaths were registered during the week ending March 5th. The annual rate of mortality in these towns, which had steadily declined in the four preceding weeks from 17·0 to 14·7 per 1000, further fell to 14·5 in the week under notice. During the first nine weeks of the current quarter the annual death-rate in these towns averaged 15·5 per 1000; the mean rate in London during the same period was also equal to 15·5. The lowest reported annual rates of mortality in the 76 towns last week were 7·0 in West Hartlepool, 7·8 in Willesden, and 8·0 in Reading; the rates in the other towns ranged upwards, however, to 21·4 in Burnley, 22·1 in Birkenhead, 22·7 in Swansea, and 23·9 in Wigan. In London the recorded death-rate last week did not exceed 14·4 per 1000. The 4650 deaths registered in the 76 towns last week showed a further decline of 52 from the numbers in recent weeks, and included 328 which were referred to the principal epidemic diseases, against numbers declining from 361 to 266 in the five preceding weeks; of these 328 deaths, 111 resulted from whooping-cough, 88 from measles, 50 from diphtheria, 32 from diarrhœa, 29 from scarlet fever, 17 from enteric fever, and 1 from small-pox. The mean annual rate of mortality in the 76 towns last week from these epidemic diseases was equal to 1·0 per 1000, against 1·0 and 0·8 in the two preceding weeks. No death from any of these epidemic diseases was registered last week in East Ham, Walthamstow, Tottenham, Derby, Wolverhampton, or in 7 other smaller towns; the annual death-rates therefrom ranged upwards, however, to 2·3 in Hastings, 2·4 in Middlesbrough, 3·8 in Birkenhead, and 3·9 in Burnley. The fatal cases of whooping-cough in the 76 towns, which had been 162, 135, and 100 in the three preceding weeks, rose again last week to 111, and caused annual death-rates equal to 1·1 in Rhondda, 1·3 in West Hartlepool, and 1·6 in Barrow-in-Furness. The deaths from measles, which had been 71 and 49 in the two previous weeks, rose to 88 last week; the highest annual rates from this disease last week were 2·1 in Ipswich and in Birkenhead, 2·2 in Hanley, and 2·4 in Burnley. The 50 deaths referred to diphtheria showed an increase of 16 upon the number in the previous week, and caused death-rates equal to 1·2 in King's Norton, 1·5 in Middlesbrough, 1·7 in Portsmouth, and 1·8 in Tynemouth. The 32 deaths attributed to diarrhœa were fewer than in any recent week. The 29 fatal cases of scarlet fever showed a decline of 3 from the number in the previous week, but included 3 in Birmingham and 2 each in Leicester, Nottingham, and Burnley. The 17 deaths referred to enteric fever showed a slight increase; 2 were returned in Nottingham, Liverpool, Wigan, and Leeds. The fatal case of small-pox occurred in Newcastle-on-Tyne. The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had steadily declined in the 20 preceding weeks from 2819 to 1765, were 1766 on Saturday last; 211 new cases of this disease were admitted to these hospitals during last week, against 215 and 193 in the two preceding weeks. The Metropolitan Asylums Hospitals contained but one case of small-pox on Saturday last. Of the 1346 deaths registered in London last week, 290 were referred to pneumonia and other diseases of the respiratory system, against 425, 395, and 348 in the three preceding weeks; these 290 deaths were 159 below the corrected average number in the corresponding week of the five years 1905–09. The causes of 37, or 0·8 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Sheffield, West Ham, Bradford, Newcastle-on-Tyne, Hull, Nottingham, and in 49 other smaller towns; the 37 uncertified causes of death in the 76 towns last week included 7 in Liverpool, 5 in Birmingham, 3 in South Shields and in Gateshead, and 2 both in St. Helens and Preston.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 912 births and 590 deaths were registered during the week ending March 5th. The annual rate of mortality in these towns, which had been equal to 17·7 and 16·2 per 1000 in the two preceding weeks, rose again slightly to 16·3 in the week under notice. During the first nine weeks of the current quarter the annual death-rate in these towns averaged 17·7 per 1000, and exceeded by 2·2 the mean rate during the same period in the 76 largest English towns. The annual death-rates last week in these eight Scotch towns ranged from 10·6 and 12·0 in Paisley and Edinburgh, to 18·1 in Dundee, 18·6 in Leith, and 27·6 in Greenock. The 590 deaths from all causes in the eight towns last week exceeded by 2 the number returned in the previous week, and included 79 which were referred to the principal epidemic diseases, corresponding with the number in the previous week. These 79 deaths were equal to an annual rate of 2·2 per 1000; the mean death-rate from the same diseases in the 76 English towns last week did not exceed 1·0 per 1000. These 79 deaths in the Scotch towns last week included 40 from measles, 14 from diarrhœa, 12 from diphtheria, 6 from "fever," 5 from scarlet fever, and 2 from whooping-cough, but not one from small-pox. The 40 fatal cases of measles corresponded with the number in the previous week, and included 28 in Glasgow, 6 in Leith, 3 in Greenock, and 2 in Edinburgh. The 14 deaths attributed to diarrhœa exceeded by 5 the number in the previous week; 6 occurred in Glasgow, 3 in Aberdeen, and 2 in Dundee. The deaths referred to diphtheria, which had been 13, 7, and 8 in the three preceding weeks, rose again to 12 last week, and included 9 in Glasgow. The 6 deaths referred to "fever," of which 3 were returned in Glasgow and 3 in Greenock, corresponded with the number in the previous week. Three of the 5 fatal cases of scarlet fever occurred in Glasgow. The 2 deaths from whooping-cough were fewer than in any recent week. The deaths in the eight towns referred to diseases of the respiratory system, which had been 135 and 97 in the two previous weeks, rose again to 114 last week, but were 60 below the number returned in the corresponding week of last year. The causes of 22, or 3·7 per cent., of the deaths in the eight towns last week were not certified or not stated; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

HEALTH OF IRISH TOWNS.

In 22 town districts of Ireland, having an estimated population of 1,151,790 persons, 652 births and 495 deaths were registered during the week ending March 5th. The mean annual rate of mortality in these towns, which had been equal to 22·8 per 1000 in each of the two previous weeks, declined to 22·4 in the week under notice. During the first nine weeks of the current quarter the annual death-rate in these Irish towns averaged 22·4 per 1000, whereas the

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1910.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1910.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.†	Deaths of Infants under one year to 1000 births.‡
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.		
LONDON	4,872,702	2	849	451	—	57	1	18	299	4	1681	4·5	—	57	17	45	148	—	6	1	42	316	0·8	5259	14·8	108
West Districts.																										
Paddington	153,004	—	16	14	—	1	—	—	9	—	40	3·4	—	2	—	3	—	—	—	—	4	10	0·9	151	13·8	118
Kensington	184,635	—	23	18	—	1	—	—	12	—	54	3·8	—	1	1	2	3	—	1	—	3	10	0·7	184	14·0	92
Hammersmith	127,413	—	28	12	—	2	—	—	3	—	45	4·6	—	3	—	3	—	—	—	—	1	7	0·7	140	14·9	108
Fulham	181,282	—	32	21	—	2	—	2	9	1	67	4·8	—	2	3	3	8	—	1	—	2	19	1·4	179	13·5	137
Chelsea	76,457	—	10	4	—	1	—	1	2	—	18	3·1	—	5	—	—	—	—	—	—	1	6	1·0	84	15·0	63
City of Westminster	167,233	—	31	19	—	1	—	—	3	—	54	4·2	—	1	1	—	—	—	—	—	1	3	0·2	146	12·8	133
North Districts.																										
St. Marylebone	125,196	—	7	8	—	1	—	—	7	—	23	2·4	—	—	—	1	8	—	—	—	—	9	0·9	133	14·7	88
Hampstead	98,729	—	12	1	—	—	—	—	3	—	16	2·2	—	5	—	—	—	—	—	—	—	5	0·7	77	11·8	73
St. Pancras	237,792	—	57	20	—	—	—	1	15	1	94	5·2	—	—	1	2	3	—	—	—	3	9	0·5	277	15·9	95
Islington	353,356	1	49	25	—	5	—	2	18	—	100	3·7	—	1	2	2	10	—	—	1	4	20	0·7	376	14·4	135
Stoke Newington	54,838	—	7	3	—	1	—	—	1	—	12	2·9	—	—	—	—	—	—	—	—	1	2	0·5	68	16·9	136
Hackney	239,979	—	34	23	—	3	—	1	11	—	72	3·9	—	6	1	—	8	—	1	—	2	17	0·9	226	13·3	104
Central Districts.																										
Holborn	53,142	—	4	4	—	—	—	—	5	1	14	3·4	—	—	—	—	3	—	—	—	—	3	0·7	65	17·1	63
Finsbury	94,578	—	10	3	—	—	—	—	7	—	20	2·8	—	—	—	1	2	—	—	—	—	3	0·4	143	20·4	109
City of London	17,132	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25	20·9	53
East Districts.																										
Shoreditch	114,387	—	14	15	—	4	—	—	11	—	44	5·0	—	2	1	2	3	—	—	—	2	10	1·1	160	19·1	108
Bethnal Green	131,579	—	12	9	—	3	—	—	15	—	42	4·2	—	3	—	1	1	—	—	—	4	9	0·9	163	18·3	142
Stepney	314,379	—	30	42	—	6	—	—	23	—	103	4·3	—	8	2	2	22	—	—	—	—	37	1·5	375	16·2	106
Poplar	172,432	1	42	14	—	3	1	—	11	—	72	5·4	—	4	—	2	13	—	—	—	—	19	1·4	213	16·6	141
South Districts.																										
Southwark	211,832	—	35	17	—	4	1	1	16	1	74	4·6	—	—	—	3	6	—	—	—	3	12	0·7	277	17·8	116
Bermondsey	127,238	—	22	12	—	2	—	—	16	—	51	5·2	—	—	—	3	3	—	—	—	1	8	0·8	154	16·2	101
Lambeth	327,074	—	84	29	—	1	2	2	17	—	133	5·3	—	1	2	4	6	—	—	3	3	16	0·6	358	13·5	82
Battersea	168,222	—	45	30	—	4	—	—	12	—	91	6·3	—	4	—	1	1	—	—	1	1	7	0·5	189	14·1	114
Wandsworth	305,838	—	48	33	—	4	—	2	18	—	105	4·5	—	—	—	3	10	—	2	—	—	16	0·7	272	12·2	81
Camberwell	286,068	—	48	25	—	4	1	—	21	—	99	4·5	—	—	1	2	3	—	—	1	1	7	0·3	276	13·1	89
Deptford	119,642	—	35	4	—	—	—	—	13	—	52	5·7	—	6	—	1	—	—	—	—	1	7	0·3	276	13·1	89
Greenwich	112,935	—	16	12	—	1	—	—	11	—	40	4·6	—	4	—	—	—	—	—	—	2	21	2·3	153	17·6	175
Lewisham	164,899	—	67	24	—	2	—	2	—	—	95	7·5	—	—	1	3	2	—	1	—	1	20	2·3	127	15·0	173
Woolwich	135,422	—	31	10	—	—	—	—	9	—	50	4·8	—	1	—	—	4	—	—	—	—	6	0·5	127	10·4	59
Port of London	—	—	—	—	—	1	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	5	0·5	141	14·5	70

* Including membranous croup.

† The death-rates are corrected for differences of sex- and age-distribution; the population of England and Wales is taken as the standard.

‡ The rates of Infant mortality are *not* corrected on account of births occurring in institutions.

mean rate during the same period did not exceed 15·5 in the 76 largest English towns and 17·7 in the eight principal Scotch towns. The annual death-rate last week was equal to 25·2 in Dublin, 22·0 in Belfast, 23·3 in Cork, 25·2 in Londonderry, 13·7 in Limerick, and 17·5 in Waterford; the mean annual death-rate last week in the 16 smallest of the Irish towns was equal to 18·9 per 1000. The 495 deaths from all causes in the 22 town districts last week showed a decline of 8 from the number returned in each of the two preceding weeks, and included 30 which were referred to the principal epidemic diseases, against 32 and 28 in the two previous weeks; these 30 deaths were equal to an annual rate of 1·4 per 1000; in the 76 English towns the mean rate last week from the same diseases did not exceed 1·0 per 1000, while in the eight Scotch towns it was equal to 2·2. The 30 deaths from these diseases in the Irish towns last week included 20 from whooping-cough, 6 from diarrhœa, 2 from enteric fever, and 1 each from measles and scarlet fever, but not one either from diphtheria or small-pox. The fatal cases of whooping-cough, which had been 20 and 17 in the two previous weeks, rose again to 20 last week, and included 11 in Belfast, 3 in Dublin, and 2 both in Limerick and Ballymena. Of the 6 deaths attributed to diarrhœa, 3 occurred in Dublin and 2 in Belfast. Both the deaths referred to enteric fever were returned in Dublin. The deaths in the 22 town districts referred to pneumonia and other diseases of the respiratory system, which had been 130 and 146 in the two previous weeks, declined to 118 last week. The causes of 21, or 4·2 per cent., of the deaths registered in the Irish towns last week were not certified; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent., and in the eight principal Scotch towns it was equal to 3·7 per cent.

VITAL STATISTICS OF LONDON DURING JANUARY, 1910.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 4·5 per 1000 of the population, estimated at 4,872,702 persons in the middle of the year. In the three preceding months the rates had been 6·5, 5·8, and 5·4 per 1000 respectively. No case of infectious disease was notified last month in the City of London; the lowest rates were recorded in Paddington, Chelsea, St. Marylebone, Hampstead, Stoke Newington, and Finsbury; and the highest rates in St. Pancras, Poplar, Bermondsey, Lambeth, Battersea, Deptford, and Lewisham. Scarlet fever again showed a declining prevalence last month; among the various metropolitan boroughs this disease was proportionally most prevalent in St. Pancras, Poplar, Lambeth, Battersea, Deptford, Greenwich, Lewisham, and Woolwich. The Metropolitan Asylums Hospitals contained 1962 scarlet fever patients at the end of last month, against 2708, 2460, and 2329 at the end of the three preceding months; the weekly admissions averaged 198, against 325, 289, and 250 in the three preceding months. Diphtheria was slightly more prevalent than it had been in the preceding month; the greatest proportional prevalence of this disease last month was recorded in Fulham, Shoreditch, Stepney, Battersea, Greenwich, and Lewisham. There were 883 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 958, 940, and 904 at the end of the three preceding months; the weekly admissions averaged 96, against 119, 104, and 97 in the three preceding months. The prevalence of enteric fever was rather less than that recorded in the preceding month; among the several boroughs this disease was proportionally most prevalent in Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Battersea. The number of enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of last month was 62, against 78, 70, and 62 at the end of the three preceding months; the weekly admissions averaged 10, against 11, 10, and 8 in the three preceding months. Erysipelas was proportionally most prevalent in Holborn, Shoreditch, Bethnal Green, Bermondsey, Deptford, and Greenwich. The 18 cases of puerperal fever notified during the month included 3 which belonged to Bethnal Green and 2 each to Fulham, Islington, Stepney, Lambeth, and Wandsworth. The 4 cases of cerebro-spinal meningitis belonged respectively to Fulham, St. Pancras, Holborn, and Southwark.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ending Jan. 29th the deaths of 5259 London residents were registered, equal to an annual rate of 14·1 per 1000; in the three preceding months the rates were 11·3, 13·8, and 15·0 per 1000. The death-rates last month ranged from 10·0 in Lewisham, 10·5 in Hampstead, 11·4 in the City of Westminster, 11·6 in Wandsworth, and 12·6 in Camberwell, to 16·1 in Poplar, 16·2 in Stoke Newington, 16·7 in Deptford, 17·0 in Southwark, 18·1 in Bethnal Green, 18·2 in Shoreditch, 19·0 in the City of London, and 19·7 in Finsbury. The 5259 deaths from all causes included 316 which were referred to the principal infectious diseases; of these 57 resulted from measles, 17 from scarlet fever, 45 from diphtheria, 148 from whooping-cough, 6 from enteric fever, 1 from ill-defined pyrexia, and 42 from diarrhœa, but not any from small-pox. No deaths from any of these infectious diseases were recorded in the City of London; among the metropolitan boroughs they caused the lowest death-rates in the City of Westminster, Camberwell, and Finsbury, and the highest rates in Stepney, Fulham, Poplar, Deptford, and Greenwich.

The 57 fatal cases of measles showed a decline of 117 from the corrected average number in the corresponding period of the five preceding years; the greatest proportional mortality from this disease was recorded in Chelsea, Hampstead, Hackney, Bethnal Green, Stepney, Poplar, Battersea, Deptford, and Greenwich. The 17 deaths from scarlet fever were 30 fewer than the corrected average number; of these 17 deaths, 3 belonged to Fulham and 2 each to Islington, Stepney, and Lambeth. The 45 fatal cases of diphtheria showed a decrease of 27 from the corrected average number; the highest death-rates from this disease were recorded in Paddington, Hammersmith, Fulham, Bermondsey, and Lewisham. The 148 deaths from whooping-cough were 42 in excess of the corrected average number in the corresponding period of the five preceding years; this disease was proportionately most fatal in St. Marylebone, Holborn, Stepney, Poplar, Deptford, and Greenwich. The 6 fatal cases of enteric fever were 15 fewer than the corrected average number; of these 6 deaths, 2 belonged to Wandsworth and 1 each to Paddington, Fulham, Stoke Newington, and Greenwich. The 42 deaths from diarrhœa showed a decline of 16 from the corrected average number; the greatest proportional mortality from this disease was recorded in Kensington, Paddington, Bethnal Green, Shoreditch, and Southwark. In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases was 32·9 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 108 per 1000 last month. The lowest rates of infant mortality were recorded in Chelsea, Hampstead, Holborn, the City of London, Lewisham, and Woolwich; and the highest rates in the City of Westminster, Fulham, Islington, Stoke Newington, Bethnal Green, Poplar, Deptford, and Greenwich.

THE SERVICES.

THE CHANGES IN THE MEDICAL DEPARTMENT AT THE WAR OFFICE.

IT is now officially announced that Surgeon-General Sir Alfred Keogh, K.C.B., has been placed on retired pay, and that Surgeon-General William L. Gubbins, C.B., M.V.O., has been promoted from Deputy Director-General to Director-General. Consequent on these changes Colonel William Babtie, V.C., C.M.G., has been appointed Deputy Director-General with the temporary rank of Surgeon-General, and Lieutenant-Colonel W. G. Macpherson, C.M.G., R.A.M.C., has been appointed Colonel.

ROYAL NAVY MEDICAL SERVICE.

The following appointments are notified:—Fleet-Surgeons: C. S. Woodwright to the *Roxburgh*, on recommissioning;

and A. S. G. Bell to the *Russell*, on recommissioning. Staff-Surgeons: F. Bolster to the *Duke of Edinburgh*; S. Roach to the *Pembroke*; C. B. Fairbank to the *Victorious*, on recommissioning; J. N. Robertson to be lent to the *Shannon*, temporarily; R. St. G. S. Bond to be lent to Chatham Dockyard, temporarily; R. Waterfield and G. S. Davidge to the *St. George*, on commissioning. Surgeons: H. A. Kellond-Knight to the *Bulwark*, additional; C. A. G. Phipps to the *Seagull*, and for torpedo-gunboats engaged in exercises; F. G. H. R. Black to the *Duke of Edinburgh*, on recommissioning; K. H. Hole to the *Russell*, on recommissioning; and C. R. Worthington to the *Defiance*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. Meek has been appointed to command the station hospital, Wellington. Lieutenant-Colonel R. J. Windle has had his appointment as physician and surgeon to the Royal Hospital, Kilmainham, extended to five years. Brevet-Colonel F. J. Lambkin, lecturer in syphilology at the Royal Army Medical College, London, has been selected for duty in South Africa, embarking about the middle of April. Brevet-Colonel R. H. Firth, instructor, School of Army Sanitation, Aldershot, has embarked for India. Major C. R. Elliott, sanitary officer, Cork District, has been appointed Sanitary Officer, Third (Lahore) Division, with effect from Feb. 1st. Lieutenant-Colonel H. Cocks and Lieutenant-Colonel H. P. G. Elkington have arrived home from India. Captain J. E. Hoar has been appointed to command the station hospital, St. Thomas's Mount, Madras. Captain E. G. Lithgow and Captain P. J. Dwyer have arrived at Aden for a tour of duty. Major E. M. Williams, Captain W. Bennett, Captain G. F. Sheehan, Lieutenant F. H. Bradley, Lieutenant A. L. Stevenson, and Lieutenant J. E. Ellcombe embarked for India on March 5th in the transport *Dufferin*. Lieutenant-Colonel S. W. Swabey, commanding the station hospital at Aden, has been granted seven months' leave from July 3rd next, and Captain R. G. H. Tate has been granted six months' leave from India from April 15th next. Captain Walter B. Fry is seconded for service with the Egyptian Army (dated Feb. 21st, 1910).

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel C. T. Hudson has been appointed Civil Surgeon (First-class), Bombay. Major E. R. Rost has been appointed to officiate as Senior Civil Surgeon, Rangoon, relieving Lieutenant-Colonel R. E. S. Davis, proceeding on leave. Major W. Molesworth has been appointed to the Medical Charge of the Divisional Staff and Establishments of the 9th (Secunderabad) Division. Major G. T. Birdwood, on completion of special duty inspecting the Dufferin Hospitals in the Central Provinces, has been selected to attend the special bacteriology course at the Pasteur Institute, Kasauli. Captain H. Boulton, in medical charge of the 31st Punjabis, has been granted one year's leave from India. Captain W. Tarr, on special duty in the Jubbulpore District, has been appointed to officiate as Civil Surgeon and is posted to the Chandra District in executive and medical charge of the Chandra District Jail. Captain D. N. Anderson, Officiating Civil Surgeon, Chandra, has been transferred to Nagpur on general duty. Captain S. T. Crump, whose services have been placed temporarily at the disposal of the Local Government, Burma, has been appointed for general duty at the Civil Hospital, Rangoon. Captain L. A. H. Lack, whose services have been placed at the disposal of the Lieutenant-Governor of Burma, has been appointed for special duty in connexion with the prevention of plague at Mandalay. Captain N. S. Sodhi has been appointed to the permanent medical charge of the 97th Deccan Infantry. The services of Captain R. K. White have been placed at the disposal of the Government of India for temporary civil employment in the Central Provinces. Captain Urwin has been selected for service in Bengal. Captain T. S. Ross, Special Health Officer, Madras Corporation, has been appointed Resident Surgeon, Madras General Hospital. Major C. M. Matthew has had his leave extended by six months. Lieutenant S. C. Chuckerbatty has been appointed to the officiating medical charge of the 48th Pioneers, and Lieutenant S. Sarkar has been appointed to the officiating medical charge of the 72nd Punjabis. Lieutenant H. H. King, Lieutenant V. B. Gokhale, and Lieutenant J. McD. Eckstein on completion of their courses of instruction at the Royal Army Medical College, London, left Southampton for India in the transport *Dufferin* on March 5th.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned to be Lieutenants (on probation):—Keith Buchanan MacGlashan (dated Feb. 1st, 1910); and George Barton McCaul (dated Feb. 2nd, 1910).

TERRITORIAL FORCE.

Royal Army Medical Corps.

For attachment to Units other than Medical Units.—Norman Scott Carmichael to be Lieutenant (dated Dec. 30th, 1909).

Attached to Units other than Medical Units.—Captain John Allison to be Major (dated Dec. 19th, 1909). Captain George Melville resigns his commission (dated Jan. 26th, 1910).

HYGIENE IN THE FRENCH NAVY.

The *Archives de Médecine Navale* in its January number publishes the report by Dr. Mercié, principal medical officer of the French Northern Squadron, on his inspections of the ships of that squadron in 1909. He is chiefly concerned about the ventilation of the rooms for wireless telegraphy, small spaces of about 250 cubic feet (say, $7 \times 7 \times 5$) in which the operator on watch passes continuously, two hours at each turn by day and four hours at night, listening to the ticking of the faint Morse signals. To secure quiet this small office is carefully isolated from the rest of the ship by layers of felt, steel, and asbestos, and as openings must be few it is hard to ventilate it. An electric fan is provided, but Dr. Mercié notes that though every operator says that the fan is only very rarely stopped, he has himself, never once, in any ship, found that fan running. There are three difficulties: the fan makes a buzzing which hinders the recognition of signals, it creates in so small a place a fierce draught, and it sucks in unpleasant smells from outside—from the kitchen, for example. For all these difficulties remedies are suggested. Unfortunately, we are not told the pattern of the silent fan found in one of the ships. The confinement in these ill-ventilated offices has not yet, so far as known, developed any disease among wireless operators, but a monthly disinfection of these rooms with formalin is recommended. As to other matters, it is noted that in one ship sheets were issued to men sleeping in hammocks, but nobody wanted them, and they were only used folded as pillows. Steam disinfectors are generally fitted, and the bedding of the ship's company, particularly the sick, is disinfected at regular intervals. Filtration of distilled water has been at last, by order, discontinued. Such a sanitary inspection of ships must be of very great value, and we are constrained to wonder why no similar system is in existence in the English fleet. This is a matter to which the Inspector-General might well turn his attention, and we feel certain that the Admiralty would find that a proposal for the regular medical inspection of the ships would receive a great medical endorsement. Dr. Mercié observes that some of the French medical equipment is out of date. An English medical officer would have said it came from Nelson's time; Dr. Mercié dates it further back, to Colbert, the great administrator of the French navy in the seventeenth century. He thinks that in battle wounded will only be moved in something like the Kirker sleigh, and that all lifts will early be put out of gear, and, being useless in his opinion for battle, should no longer be fitted in ships. He observes that he tried to get petty officers instructed in "first-aid" on board their own ships; he himself found them most intelligent and eager to learn, but by the end of the year little instruction had been given, largely, as he says, by reason of "inertia, as much of captains ..... as of senior medical officers." In our navy this instruction is ordered and, we understand, carried out. In the last health report of the German navy it is said that care was specially taken to teach the principles of first-aid "at any rate to most of the crew," while the men of the ambulance party were in several ships taken off their other duties for 14 days or more, and sent to the sick bay to learn how to carry the wounded and attend to the sick.

BRITISH RED CROSS SOCIETY.

At the Abbey Hall, Reading, on Feb. 24th, Lieutenant-Colonel Sir Richard Temple, C.I.E., delivered an address on the work of the Red Cross Society and the Voluntary Aid

Detachments. He pointed out that the society did not trench upon the work of the St. John Ambulance Association. The members of the association were the best recruits that could be got for the Voluntary Aid Detachments, and it had been arranged for members of a brigade to join *en bloc* under their own officers. Joining such detachments did not interfere with their ordinary duties. Those persons already qualified could join the detachment. A good beginning had already been made in Berkshire, and he hoped they would make it a success. The object of the Voluntary Aid Detachments was to give aid to the sick and wounded of the Territorial Forces.

A meeting was held under the auspices of the British Red Cross Society in the town hall, Okehampton, on Feb. 28th, with the object of stimulating the movement for the formation of a Voluntary Aid Detachment. Mr. J. S. C. Davis, county director, explained the scheme, remarking that the necessary training was not likely to make serious demands upon the time of members.

On March 1st, Sir Frederick Treves gave an address at Romsey, Hants, in the town hall. A branch of the Red Cross Society was started at the close of the meeting.

A public meeting has been held at Totnes for the purpose of forming a branch of the Red Cross Society in that town.

THE ORDER OF ST. JOHN OF JERUSALEM IN ENGLAND.

The following appointments have been made to the Order of the Hospital of St. John of Jerusalem in England: Robert Alexander Gibbons, M.D. Edin., Lieutenant-Colonel Frederick Henry Appleby, R.A.M.C. T.F. (from Honorary Associate), Major Robert James Blackham, R.A.M.C. (from Honorary Associate), to be Knights of Grace; and Major Charles Alfred Hodgetts, A.M.C. (Canada) (from Honorary Associate), Charles Joseph Copp, M.D. Toronto, and Major Harry Bridges Yates to be Esquires.

GOOD SERVICE REWARDS.

The £100 good service pension, rendered available by the death of Surgeon-General Madden, C.B., has been divided into two sums of £50 per annum, and awarded to Colonel J. Williamson, C.B., C.M.G., and Colonel J. F. Supple, C.B., respectively, both on the retired list, Army Medical Service.

Correspondence.

"Audi alteram partem."

THE PREVALENCE OF TUBERCULOSIS AMONG SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—I have read with much interest your comments on the Annual Report of the Medical Department of the Board of Education. The subject is a new and developing one. There is great need of wisdom in the conception and prosecution of the programme of the medical inspection of school children. For the present it is impossible to lay much stress on facts elicited by a system of inspection which is not only new but necessarily unequal in the hands of different examiners.

Keeping that in view, I would crave your permission to elaborate somewhat the paragraph in which you refer to the prevalence of tuberculosis among school children. Manifestly the inequality of the present returns is traceable to the different standard adopted and the varying skill possessed by examiners. When you say, with reference to the small and unequal figures quoted as to the incidence of pulmonary tuberculosis, that possibly careful observation will show that the condition is far more common than is as yet believed, is not the statement perhaps ultra-cautious in view of facts already ascertained? You cite French authorities as "claiming to have detected tuberculosis in a very large percentage of Paris school children." Let me recall the even more remarkable statistics from the city of Vienna, published by Sluka and Hamburger, by von Pirquet, and by Monti and Hamburger. These observations go to show, alike by post-mortem examination and by results of the tuberculin test, that among school children, or more widely in children from 2 to 14 years of age, in the city of Vienna tuberculosis was determinable in from 40 to 50 per cent. throughout. In children from the eleventh to the fourteenth year dying from all sorts of causes no fewer than 70 per cent. were found to be tuberculous. Statistics from other continental centres might be cited, but you will allow me to bring the issue nearer home and to reiterate what I stated in a lecture before the Congress on Tuberculosis at Washington in 1908, and again in the address in medicine before the British Medical Association at Belfast last year with regard to observations made in Edinburgh.

The observations were in two series. The first series had reference to the frequency with which school children came under treatment at the Royal Victoria Dispensary for Consumption, Edinburgh. It showed that of the immense *clientèle* of patients attending that institution no fewer than 11 per cent. were children below 15 years of age. In keeping with this, it is found difficult to provide sufficient accommodation for the demands made on behalf of children for admission to the Royal Victoria Hospital for Consumption. Although the hospital is primarily arranged for adults, at the present time, out of a total of 100 patients, 18 are children between 6 and 15 years of age.

The second series included my personal examination of groups of children in various schools under the school board in the city of Edinburgh. The groups of children were selected at random by headmasters as representative of different ages, and strictly without reference to supposed delicacy or otherwise. In judging the cases I made use of three simple, definite tests. In every case the tests were applied by myself, and the results carefully noted by a colleague. The tests included: (*a*) palpation for evidence of glandular enlargement of the anterior cervical and supraclavicular areas (only cases showing at least a dozen such enlarged glands were included as positive); (*b*) percussion of the apices; and (*c*) auscultation of the apices. In the final determination I regarded as tuberculous only those children who afforded positive evidence in respect of *each* of the three tests. In every case, and in relation to each of the tests, if there was doubt I gave the child the benefit of the doubt. As a further correction, to exclude the possibility of error and over-refinement in diagnosis, I wrote off 15 per cent. of the whole. The net result is that no fewer than 30 per cent. of the children examined were found to present stigmata of tuberculosis.

It will be understood that these figures refer to clinically determinable infection, the majority of the cases being none the less in fairly good condition—just the sort of child who might be readily passed as requiring no detailed examination. The proportion of children suffering from pulmonary tuberculosis in aggressive form is, of course, very much less. While determination of the presently active cases is urgently called for with a view to their removal from school, the determination of minor degrees of tuberculous involvement is the ultimate goal to be obtained. Such conditions are *potentially* of little less importance than the others.

Of much significance in this connexion is the large increase of mortality which occurs during the period of school life. Thus, taking the mortality from pulmonary tuberculosis in Scotland during three successive quinquennia from 1891–1905, I find that while there is a remarkable decrease in the rate as between children under 1 year, and children under 5 years, amounting to 31·08 per cent. (1891–95), 29·03 per cent. (1896–1900), and 15·38 per cent. (1901–05), and while there is likewise a decrease in mortality between the ages of 5 and 9, amounting to 17·65 per cent. (1891–95), 25 per cent. (1896–1900), and 26·81 per cent. (1901–05), there is, contrariwise, a most striking increase in the death-rate of children from 10–14 years of age, the increase amounting in the respective periods to 90·48 per cent. (1891–95), 105·88 per cent. (1896–1900), and 90·63 per cent. (1901–05).

These facts are suggestive and of far-reaching importance. Evidence is rapidly accumulating that it is especially during childhood and school life that the tuberculous seed finds a nidus. An exact estimate of the incidence of tuberculosis in childhood is urgently needed, not alone in the interest of the child, but also in that of the population as a whole. This is a scientific and social question of the first moment. There is need for much greater refinement of examination with a view to the detection of local earliest changes. The usual training of the medical student or the diagnosis of pulmonary tuberculosis is [illegible] faulty because is concerned chiefly with the grosser signs of advanced disease. He is seldom called to realise the [illegible] of the finer points

and A. S. G. Bell to the *Russell*, on recommissioning. Staff-Surgeons: F. Bolster to the *Duke of Edinburgh*; S. Roach to the *Pembroke*; C. B. Fairbank to the *Victorious*, on recommissioning; J. N. Robertson to be lent to the *Shannon*, temporarily; R. St. G. S. Bond to be lent to Chatham Dockyard, temporarily; R. Waterfield and G. S. Davidge to the *St. George*, on commissioning. Surgeons: H. A. Kellond-Knight to the *Bulwark*, additional; C. A. G. Phipps to the *Seagull*, and for torpedo-gunboats engaged in exercises; F. G. H. R. Black to the *Duke of Edinburgh*, on recommissioning; K. H. Hole to the *Russell*, on recommissioning; and C. R. Worthington to the *Defiance*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. Meek has been appointed to command the station hospital, Wellington. Lieutenant-Colonel R. J. Windle has had his appointment as physician and surgeon to the Royal Hospital, Kilmainham, extended to five years. Brevet-Colonel F. J. Lambkin, lecturer in syphilology at the Royal Army Medical College, London, has been selected for duty in South Africa, embarking about the middle of April. Brevet-Colonel R. H. Firth, instructor, School of Army Sanitation, Aldershot, has embarked for India. Major C. R. Elliott, sanitary officer, Cork District, has been appointed Sanitary Officer, Third (Lahore) Division, with effect from Feb. 1st. Lieutenant-Colonel H. Cocks and Lieutenant-Colonel H. P. G. Elkington have arrived home from India. Captain J. E. Hoar has been appointed to command the station hospital, St. Thomas's Mount, Madras. Captain E. G. Lithgow and Captain P. J. Dwyer have arrived at Aden for a tour of duty. Major E. M. Williams, Captain W. Bennett, Captain G. F. Sheehan, Lieutenant F. H. Bradley, Lieutenant A. L. Stevenson, and Lieutenant J. E. Ellcombe embarked for India on March 5th in the transport *Dufferin*. Lieutenant-Colonel S. W. Swabey, commanding the station hospital at Aden, has been granted seven months' leave from July 3rd next, and Captain R. G. H. Tate has been granted six months' leave from India from April 15th next. Captain Walter B. Fry is seconded for service with the Egyptian Army (dated Feb. 21st, 1910).

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel C. T. Hudson has been appointed Civil Surgeon (First-class), Bombay. Major E. R. Rost has been appointed to officiate as Senior Civil Surgeon, Rangoon, relieving Lieutenant-Colonel R. E. S. Davis, proceeding on leave. Major W. Molesworth has been appointed to the Medical Charge of the Divisional Staff and Establishments of the 9th (Secunderabad) Division. Major G. T. Birdwood, on completion of special duty inspecting the Dufferin Hospitals in the Central Provinces, has been selected to attend the special bacteriology course at the Pasteur Institute, Kasauli. Captain H. Boulton, in medical charge of the 31st Punjabis, has been granted one year's leave from India. Captain W. Tarr, on special duty in the Jubbulpore District, has been appointed to officiate as Civil Surgeon and is posted to the Chandra District in executive and medical charge of the Chandra District Jail. Captain D. N. Anderson, Officiating Civil Surgeon, Chandra, has been transferred to Nagpur on general duty. Captain S. T. Crump, whose services have been placed temporarily at the disposal of the Local Government, Burma, has been appointed for general duty at the Civil Hospital, Rangoon. Captain L. A. H. Lack, whose services have been placed at the disposal of the Lieutenant-Governor of Burma, has been appointed for special duty in connexion with the prevention of plague at Mandalay. Captain N. S. Sodhi has been appointed to the permanent medical charge of the 97th Deccan Infantry. The services of Captain R. K. White have been placed at the disposal of the Government of India for temporary civil employment in the Central Provinces. Captain Urwin has been selected for service in Bengal. Captain T. S. Ross, Special Health Officer, Madras Corporation, has been appointed Resident Surgeon, Madras General Hospital. Major C. M. Matthew has had his leave extended by six months. Lieutenant S. C. Chuckerbatty has been appointed to the officiating medical charge of the 48th Pioneers, and Lieutenant S. Sarkar has been appointed to the officiating medical charge of the 72nd Punjabis. Lieutenant H. H. King, Lieutenant V. B. Gokhale, and Lieutenant J. McD. Eckstein on completion of their courses of instruction at the Royal Army Medical College, London, left Southampton for India in the transport *Dufferin* on March 5th.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned to be Lieutenants (on probation):—Keith Buchanan MacGlashan (dated Feb. 1st, 1910); and George Barton McCaul (dated Feb. 2nd, 1910).

TERRITORIAL FORCE.

Royal Army Medical Corps.

For attachment to Units other than Medical Units.—Norman Scott Carmichael to be Lieutenant (dated Dec. 30th, 1909).

Attached to Units other than Medical Units.—Captain John Allison to be Major (dated Dec. 19th, 1909). Captain George Melville resigns his commission (dated Jan. 26th, 1910).

HYGIENE IN THE FRENCH NAVY.

The *Archives de Médecine Navale* in its January number publishes the report by Dr. Mercié, principal medical officer of the French Northern Squadron, on his inspections of the ships of that squadron in 1909. He is chiefly concerned about the ventilation of the rooms for wireless telegraphy, small spaces of about 250 cubic feet (say, $7 \times 7 \times 5$) in which the operator on watch passes continuously, two hours at each turn by day and four hours at night, listening to the ticking of the faint Morse signals. To secure quiet this small office is carefully isolated from the rest of the ship by layers of felt, steel, and asbestos, and as openings must be few it is hard to ventilate it. An electric fan is provided, but Dr. Mercié notes that though every operator says that the fan is only very rarely stopped, he has himself, never once, in any ship, found that fan running. There are three difficulties: the fan makes a buzzing which hinders the recognition of signals, it creates in so small a place a fierce draught, and it sucks in unpleasant smells from outside—from the kitchen, for example. For all these difficulties remedies are suggested. Unfortunately, we are not told the pattern of the silent fan found in one of the ships. The confinement in these ill-ventilated offices has not yet, so far as known, developed any disease among wireless operators, but a monthly disinfection of these rooms with formalin is recommended. As to other matters, it is noted that in one ship sheets were issued to men sleeping in hammocks, but nobody wanted them, and they were only used folded as pillows. Steam disinfectors are generally fitted, and the bedding of the ship's company, particularly the sick, is disinfected at regular intervals. Filtration of distilled water has been at last, by order, discontinued. Such a sanitary inspection of ships must be of very great value, and we are constrained to wonder why no similar system is in existence in the English fleet. This is a matter to which the Inspector-General might well turn his attention, and we feel certain that the Admiralty would find that a proposal for the regular medical inspection of the ships would receive a great medical endorsement. Dr. Mercié observes that some of the French medical equipment is out of date. An English medical officer would have said it came from Nelson's time; Dr. Mercié dates it further back, to Colbert, the great administrator of the French navy in the seventeenth century. He thinks that in battle wounded will only be moved in something like the Kirker sleigh, and that all lifts will early be put out of gear, and, being useless in his opinion for battle, should no longer be fitted in ships. He observes that he tried to get petty officers instructed in "first-aid" on board their own ships; he himself found them most intelligent and eager to learn, but by the end of the year little instruction had been given, largely, as he says, by reason of "inertia, as much of captains ..... as of senior medical officers." In our navy this instruction is ordered and, we understand, carried out. In the last health report of the German navy it is said that care was specially taken to teach the principles of first-aid "at any rate to most of the crew," while the men of the ambulance party were in several ships taken off their other duties for 14 days or more, and sent to the sick bay to learn how to carry the wounded and attend to the sick.

BRITISH RED CROSS SOCIETY.

At the Abbey Hall, Reading, on Feb. 24th, Lieutenant-Colonel Sir Richard Temple, C.I.E., delivered an address on the work of the Red Cross Society and the Voluntary Aid

Detachments. He pointed out that the society did not trench upon the work of the St. John Ambulance Association. The members of the association were the best recruits that could be got for the Voluntary Aid Detachments, and it had been arranged for members of a brigade to join *en bloc* under their own officers. Joining such detachments did not interfere with their ordinary duties. Those persons already qualified could join the detachment. A good beginning had already been made in Berkshire, and he hoped they would make it a success. The object of the Voluntary Aid Detachments was to give aid to the sick and wounded of the Territorial Forces.

A meeting was held under the auspices of the British Red Cross Society in the town hall, Okehampton, on Feb. 28th, with the object of stimulating the movement for the formation of a Voluntary Aid Detachment. Mr. J. S. C. Davis, county director, explained the scheme, remarking that the necessary training was not likely to make serious demands upon the time of members.

On March 1st, Sir Frederick Treves gave an address at Romsey, Hants, in the town hall. A branch of the Red Cross Society was started at the close of the meeting.

A public meeting has been held at Totnes for the purpose of forming a branch of the Red Cross Society in that town.

THE ORDER OF ST. JOHN OF JERUSALEM IN ENGLAND.

The following appointments have been made to the Order of the Hospital of St. John of Jerusalem in England: Robert Alexander Gibbons, M.D. Edin., Lieutenant-Colonel Frederick Henry Appleby, R.A.M.C. T.F. (from Honorary Associate), Major Robert James Blackham, R.A.M.C. (from Honorary Associate), to be Knights of Grace; and Major Charles Alfred Hodgetts, A.M.C. (Canada) (from Honorary Associate), Charles Joseph Copp, M.D. Toronto, and Major Harry Bridges Yates to be Esquires.

GOOD SERVICE REWARDS.

The £100 good service pension, rendered available by the death of Surgeon-General Madden, C.B., has been divided into two sums of £50 per annum, and awarded to Colonel J. Williamson, C.B., C.M.G., and Colonel J. F. Supple, C.B., respectively, both on the retired list, Army Medical Service.

Correspondence.

"Audi alteram partem."

THE PREVALENCE OF TUBERCULOSIS AMONG SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—I have read with much interest your comments on the Annual Report of the Medical Department of the Board of Education. The subject is a new and developing one. There is great need of wisdom in the conception and prosecution of the programme of the medical inspection of school children. For the present it is impossible to lay much stress on facts elicited by a system of inspection which is not only new but necessarily unequal in the hands of different examiners.

Keeping that in view, I would crave your permission to elaborate somewhat the paragraph in which you refer to the prevalence of tuberculosis among school children. Manifestly the inequality of the present returns is traceable to the different standard adopted and the varying skill possessed by examiners. When you say, with reference to the small and unequal figures quoted as to the incidence of pulmonary tuberculosis, that possibly careful observation will show that the condition is far more common than is as yet believed, is not the statement perhaps ultra-cautious in view of facts already ascertained? You cite French authorities as "claiming to have detected tuberculosis in a very large percentage of Paris school children." Let me recall the even more remarkable statistics from the city of Vienna, published by Sluka and Hamburger, by von Pirquet, and by Monti and Hamburger. These observations go to show, alike by post-mortem examination and by results of the tuberculin test, that among school children, or more widely in children from 2 to 14 years of age, in the city of Vienna tuberculosis was determinable in from 40 to 50 per cent. throughout. In children from the eleventh to the fourteenth year dying from all sorts of causes no fewer than 70 per cent. were found to be tuberculous. Statistics from other continental centres might be cited, but you will allow me to bring the issue nearer home and to reiterate what I stated in a lecture before the Congress on Tuberculosis at Washington in 1908, and again in the address in medicine before the British Medical Association at Belfast last year with regard to observations made in Edinburgh.

The observations were in two series. The first series had reference to the frequency with which school children came under treatment at the Royal Victoria Dispensary for Consumption, Edinburgh. It showed that of the immense *clientèle* of patients attending that institution no fewer than 11 per cent. were children below 15 years of age. In keeping with this, it is found difficult to provide sufficient accommodation for the demands made on behalf of children for admission to the Royal Victoria Hospital for Consumption. Although the hospital is primarily arranged for adults, at the present time, out of a total of 100 patients, 18 are children between 6 and 15 years of age.

The second series included my personal examination of groups of children in various schools under the school board in the city of Edinburgh. The groups of children were selected at random by headmasters as representative of different ages, and strictly without reference to supposed delicacy or otherwise. In judging the cases I made use of three simple, definite tests. In every case the tests were applied by myself, and the results carefully noted by a colleague. The tests included: (*a*) palpation for evidence of glandular enlargement of the anterior cervical and supraclavicular areas (only cases showing at least a dozen such enlarged glands were included as positive); (*b*) percussion of the apices; and (*c*) auscultation of the apices. In the final determination I regarded as tuberculous only those children who afforded positive evidence in respect of *each* of the three tests. In every case, and in relation to each of the tests, if there was doubt I gave the child the benefit of the doubt. As a further correction, to exclude the possibility of error and over-refinement in diagnosis, I wrote off 15 per cent. of the whole. The net result is that no fewer than 30 per cent. of the children examined were found to present stigmata of tuberculosis.

It will be understood that these figures refer to clinically determinable infection, the majority of the cases being none the less in fairly good condition—just the sort of child who might be readily passed as requiring no detailed examination. The proportion of children suffering from pulmonary tuberculosis in aggressive form is, of course, very much less. While determination of the presently active cases is urgently called for with a view to their removal from school, the determination of minor degrees of tuberculous involvement is the ultimate goal to be obtained. Such conditions are *potentially* of little less importance than the others.

Of much significance in this connexion is the large increase of mortality which occurs during the period of school life. Thus, taking the mortality from pulmonary tuberculosis in Scotland during three successive quinquennia from 1891–1905, I find that while there is a remarkable decrease in the rate as between children under 1 year, and children under 5 years, amounting to 31·08 per cent. (1891–95), 29·03 per cent. (1896–1900), and 15·38 per cent. (1901–05), and while there is likewise a decrease in mortality between the ages of 5 and 9, amounting to 17·65 per cent. (1891–95), 25 per cent. (1896–1900), and 26·81 per cent. (1901–05), there is, contrariwise, a most striking increase in the death-rate of children from 10–14 years of age, the increase amounting in the respective periods to 90·48 per cent. (1891–95), 105·88 per cent. (1896–1900), and 90·63 per cent. (1901–05).

These facts are suggestive and of far-reaching importance. Evidence is rapidly accumulating that it is especially during childhood and school life that the tuberculous seed finds a nidus. An exact estimate of the incidence of tuberculosis in childhood is urgently needed, not alone in the interest of the child, but also in that of the population as a whole. This is a scientific and social question of the first moment. There is need for much greater refinement of examination with a view to the detection of the earliest changes. The usual training of the medical student in the diagnosis of pulmonary tuberculosis is faulty because it is concerned chiefly with the grosser signs yielded by advanced disease. He is seldom called to realise the meaning of the finer points

in diagnosis. Moreover, he is taught too much to regard pulmonary tuberculosis as a disease of adolescent or adult life.

I confess to grave misgivings as to the worth of most of the figures based on the *routine* examination of school children, so far as they bear on the *actual incidence* of tuberculosis. I have little doubt that cases of aggressive disease are seldom neglected. That is another matter. But if the medical inspection of school children is to be regarded as of scientific validity in respect of the incidence of tuberculosis it is imperative that the standard of clinical training in this department should be raised.—I am, Sir, yours faithfully,

Edinburgh, March 5th, 1910. R. W. PHILIP.

SOLDIERS' TEETH.

To the Editor of THE LANCET.

SIR,—The questions asked and answered in the House of Commons and the statistics quoted in the leading article in THE LANCET of March 5th about the condition of the teeth of soldiers and their treatment emphasise the fact that something more is needed to be done for them than present regulations provide for, and having in view the pay of the soldier it is obviously the duty of the nation to take care of his teeth, and this not purely from the humanitarian point of view, but also that his efficiency may be maintained. Modern dental research is proving that the state of the teeth is much more largely concerned with the general health of the individual than was supposed to be the case. Both Germany and France are dealing practically with the question, and in England the Naval Medical Service has formulated a scheme that is working well. All the surgeons who enter at Haslar receive dental instruction from a specially appointed teacher, and no naval surgeon is now ignorant of operative dental methods. The Admiralty has established dental depôts at the principal home stations under the charge of civilian dentists, and each seaman can be, and in most cases is, examined at least once a year. This action on the part of the Admiralty may probably have resulted from the fact that Sir James Dick some years ago consulted some dentists holding official positions, who recommended the exact course which has now been put into practice. In your leading article you pointed out only too clearly that far too many recruits are rejected because of diseased teeth, and that many soldiers are invalided for a similar reason. Both these conditions should be materially changed, and it would probably be financially sounder to expend some money on making both recruits and soldiers fit for service than to reject them or invalid them.

There seem to be two possible methods of dealing with the problem: (1) the establishment of an Army Dental Department; or (2) requiring all candidates for entrance into the Army Medical Department to provide, *before* they can be accepted, a certificate of knowledge in operative dental surgery. The first method has been tried and failed, it having proved too costly, no doubt largely owing to those who were appointed having exaggerated the importance of their department and having been too extravagant in their demands. It is not probable that a similar course will be tried again. It is not just, however, that the service is to suffer because of this failure, and one probably due to those appointed rather than to the War Office authorities.

The following suggestions are made in the hope of helping to find a solution of the problem: 1. Each new candidate for commission to the Royal Army Medical Corps should *before* appointment be required to receive six months' training in operative dental surgery at a dental hospital. 2. That the War Office should ask the dental hospitals in the United Kingdom to establish a special course of instruction for such candidates, prosthetic dentistry to be excluded. 3. That the dental diploma-granting corporations who have dental examination boards should be requested by the Government to hold examinations on the subject and to grant a certificate of proficiency (not a diploma) to those who successfully pass the test; or, if felt desirable, the War Office could appoint special teachers and examiners and grant their own certificate on some such lines as is already done at Haslar. 4. That at each depôt one or more dentists, according to requirements, should be appointed with the title of dentist to His Majesty's Forces, who should be paid an honorarium to be inclusive of services and materials, in order that expenditure may be limited. These appointments, if announced in the *Gazette*, would, like appointments to hospitals, attract dentists to apply for them.

The army medical officers have charge of the health of the soldier; they should not neglect the treatment of the teeth, which are diseased more frequently than any other organ. Dental surgery, however, requires special education, and the medical officers should be required to obtain the necessary knowledge and skill to enable them to treat such diseased conditions. The supplying of artificial teeth should be treated in the same manner as the supply of artificial legs, arms, &c. The dentists who are appointed to His Majesty's Forces should be required to supply dentures at a small fixed charge to such soldiers as are sent to them by the respective medical officers.

The principal objections to these arrangements are probably as follows: (*a*) They would not be popular with the medical officers, who cannot be expected to be specialists in all departments of medicine. The unpopularity would soon cease if the authorities of the Army Medical Department made the dental course compulsory before the candidate was eligible for admission. While dental disease is far more common than any other its treatment is far more easily learned, and there are greater opportunities for learning it than for any other speciality of surgery. (*b*) That the certificate would be a degraded dental diploma. This, however, has no validity, because every medical practitioner is entitled to practise dental surgery. The certificate would only be a guarantee that he was able to do so satisfactorily.

I am, Sir, yours faithfully,

Cavendish-square, W., March 7th, 1910. MORTON SMALE.

THE EARLY DIAGNOSIS OF CANCER OF THE STOMACH.

To the Editor of THE LANCET.

SIR,—I appreciate the courtesy of Mr. C. Mansell Moullin's letter, but I cannot perceive that he has replied to my objection. He finds that 60 per cent. of his cases of gastric cancer gave a history such as is ordinarily accepted as diagnostic of pre-existing gastric ulcer. This large proportion is contrary to my experience and to that of many careful observers. My objection to his figures is that, being based on a highly specialised class of cases, they are fallacious. He refers to the "pathology of the living," but the point at issue has nothing to do with "the pathology of the living," because it is a purely clinical point except as regards the confirmation of the diagnosis of cancer, which no one will contend can be better attained by operation than by necropsy. He has quoted the results of other eminent surgeons. Let me give the experience of some well-known clinicians.

1. Sir William Allchin says: "In a person over middle life in whom dyspeptic symptoms such as anorexia, nausea, constipation, with discomfort at the pit of the stomach, and a growing weakness and anæmia are developing, the suspicion of gastric cancer should arise; and the significance of such symptoms would be greater if the patients have previously enjoyed good health."

2. Dr. Sidney Martin, whilst admitting, as everyone does, that a certain number of cases of gastric cancer are preceded by gastric ulcer, considers that "previous disease of the stomach has no special relation to the development of cancer."

3. Professor W. Osler and Dr. T. McCrae, in their analysis of 150 cases of cancer of the stomach, found that "in only four of our cases was there a history which pointed to gastric ulcer, and in none of them could such a condition be positively diagnosed."

4. Dr. S. Fenwick and Dr. W. S. Fenwick sum up their view as follows: "Cruveilhier was the first to point out that carcinoma is apt to attack the edge or scar of a simple ulcer, and the subsequent confirmation of this fact by Rokitansky, Dittrich, Brinton, and Hauser has led to the belief that a causal relationship exists between the two complaints. Thus, according to Lebert, 9 per cent. of all gastric cancers originate in this manner; but Rosenheim is disposed to reduce this estimate to 6 per cent. and Häberlin to 2·3 per cent. The widespread destruction of the tissues that results from a malignant growth usually obliterates every trace of a pre-existent ulcer or scar, and it is therefore necessary to surmise

the former presence of such a lesion from a history of severe pain or hæmatemesis. Out of 134 cases in which special inquiries were directed by us to this question, only four, or 3 per cent., admitted having suffered from symptoms of this kind prior to the onset of the fatal complaint. As this result tallies closely with our experience in private practice, we are inclined to believe that not more than 3 per cent. of all cases of gastric cancer are preceded by gastric ulcer."

Here, therefore, is a remarkable consensus of most authoritative opinion in favour of my contention. How can such an extraordinary divergence of view between Mr. Mansell Moullin and his fellow-surgeons on the one hand and these clinical authorities on the other be explained? Obviously there must be a fallacy somewhere, and one naturally turns first to examine the materials upon which the opposing statements are based. The operators, owing to their specialisation—even owing, also, to their wide reputation—are obviously supplied with a highly specialised class of cases, amongst which gastric ulcers, old and new, must bulk largely. The clinicians, on the other hand, are dealing with all sorts of cases of gastric cancer, unselected, with or without indications for operation. To my mind the inference is obvious. The operators, with their special material, largely composed of gastric ulcer cases, are not in a position to draw inferences with regard to cancer of the stomach in general.

Mr. Mansell Moullin, instead of fully considering this objection, raises a further point, on which again I regret that I must absolutely disagree with him. He says: "What I maintain is that cancer of the stomach originates *almost always on the site of some unhealed ulcer or scar, as it notoriously does in all other parts of the body.*" The italics are mine. Now this passage in italics seems to me to constitute a very sweeping statement, needing detailed consideration. In discussing it I will divide different regions of the body into two classes—viz., A, those in which there is no sufficient ground for such a statement; and B, those in which there seems at first sight to be some ground for it.

A. (This class is by far the more numerous.)

Breast.—Of 137 cases of mammary cancer examined by Mr. Roger Williams to ascertain this very point only 17·5 per cent. gave a history of previous mammary disease, a percentage probably not very different from that obtaining in non-cancerous patients, and in only 2 cases out of 137 did the cancer appear to originate in connexion with an induration.

Pharynx.—Sir Felix Semon and Dr. Watson Williams say: "The causes of malignant growths in this region are as obscure and ill-defined as are the causes of similar growths occurring in other parts of the body." Not a word is said by such acute and experienced observers of the origin of pharyngeal cancer from an ulcer or a scar.

Larynx.—The same authorities are also silent about the origin of laryngeal cancer from such lesions. Instead they say: "Heredity, excessive use of the voice, and long-continued irritation are commonly held to have some influence in their production; but the experience of one us (F. S.) who has had the opportunity of seeing an unusually large number of cases of malignant disease of the larynx, and has paid special attention to these factors, lends no support to these surmises. As a matter of fact, it is hardly ever possible to assign the cause of the occurrence of malignant disease of the larynx."

Œsophagus.—Cancer of the œsophagus is a common disease, ulcer of the œsophagus an uncommon one. Dr. H. D. Rolleston mentions only two cases of cancer developing in the scar of an œsophageal ulcer, which he says are referred to by Tileston.

Duodenum.—About ten cases have been recorded of duodenal cancer arising on the site of a pre-existing ulcer. "But," writes Dr. Rolleston, "ulcer cannot be an important factor in the causation of duodenal carcinoma, because ulcer is almost confined to the first part, whilst carcinoma is much more frequent in the second."

Rectum.—Mr. Harrison Cripps finds no indications of local predisposing causes.

Kidney, bladder, prostate, lung, and liver.—We have no knowledge of any preceding ulcerative or scarring process frequently leading to the development of primary cancer of these organs.

Lip.—The mere pressure of a clay pipe cannot be described as ulceration or scarring. Apart from such pressure, what frequent forerunner of cancer has been described in this situation?

Skin of the extremities.—Volkmann endeavoured to show that 88 per cent. of the cases of cancer arising in the skin of the extremities began in some pre-existing "lesion." Roger Williams, however, has shown that Volkmann's cases were not consecutive and that most of them were actually published by various observers to show the occasional association of cancer with pre-existing disease. Williams himself has analysed 40 consecutive cases of primary cancer of the skin in which special attention has been directed to the question of pre-existing disease. In only 11 was such disease found, and in 2 of these the lesion was not an ulcer or scar, but a wart; in 2 others the lesion was "congenital." Excluding only the two wart cases, we find that pre-existing disease occurred in only 22 per cent.

Penis.—I know of no claim as to frequent origin here from previous ulceration or scarring. Even the claim as to the influence of phimosis seems open to a good deal of discussion.

B.

Uterus.—It is a well-known fact that almost all cases of cancer of the cervix occur in women who have borne children and it has been inferred that the cancer resulted from scarring. But it should be remembered that if, as is stated, nearly 80 per cent. of women over 24 marry, in regarding the frequency in parous women, some allowance must be made for this fact. Further, and even more important, it must be remembered, if cancer is a parasitic disease (and who will be bold enough to deny that possibility?) the virgin uterus is scarcely accessible to invasion from without. Further still, it is noteworthy that, although presumably poor and rich alike are scarred after delivery, cancer of the cervix is comparatively rare amongst the rich. It is certain that many cases are seen to originate at points remote from the scars on the cervix where such exist. It would, at all events, I think, be exceedingly rash to use cancer of the uterus as an argument that cancer generally is likely to originate in most cases from a pre-existing ulcer or scar.

Gall-bladder and bile-ducts.—Here cancer is admittedly commonly preceded by gall-stones. But what proof exists that those gall-stones have previously produced ulceration or scarring? Here again, it has to be remembered that the gall-stones may act not merely as irritants but as aiding a possible cancer parasite to enter the bile passages from the bowel. If gall-stones by their direct effects cause cancer, why are pancreatic calculi so unusual in pancreatic cancer, appendicular concretions so unusual in appendix cancer, renal calculi in renal cancer, and bladder calculi in bladder cancer? Here again, the analogy, however tempting, is evidently a dangerous one.

That any continuous severe irritation may help to set up cancer is an admitted fact, and special cancers so set up, like chimney-sweep's cancer, betel-nut-chewer's cancer, and the cancer of the abdominal skin amongst the Kashmiris, do not seem to me to affect the question at issue. Therefore, it is *not* notorious that cancer arises "almost always on the site of some unhealed ulcer or irritated scar" "in all other parts of the body."

I am, Sir, yours faithfully,

Exeter, Feb. 28th, 1910. W. GORDON.

THE ENGLISH "MEMBER" AND THE IRISH AND SCOTCH LICENTIATE.

To the Editor of THE LANCET.

SIR,—The grammar is not mine but the advertisement appearing in an issue of to-day reads: "Applicants must be a Fellow or Member of one of the Royal Colleges of Surgeons." That is, if you hold the primary diploma of the London College of Surgeons you are eligible, if you hold that of Dublin or Edinburgh you are not.

We know that causes, accidental and historical, have resulted in the diplomates in London being called "Members" of their College as it was founded on the model of the London guilds, of which each freeman was a member with equal rights, whilst in Dublin and Edinburgh the academic traditions prevailed. The local College of Surgeons was practically the surgical faculty of the University, and granted to competent persons a licence to practise, and this licence was in some sense a superior qualification to the

membership of a guild, being founded on the continental degree of licentiates which intervened between that of Bachelor and Doctor.

Nothing would raise such angry passions as comparisons between the surgical colleges of the three capitals, and I shall not suggest such, but I submit that the same relations exist between the Colleges of Physicians. Now what difference is there in the public eye between a Licentiate of the College of Physicians of London, Dublin, or Edinburgh? If there be any difference it is due to the reputation of the College itself, but when it comes to a "Member" of the College of Surgeons, as against a "Licentiate" of another, at once the conclusion is jumped to that because a "Member" is above a "Licentiate" in a Physicians' College, so also is he in a Surgeons' College, and the "Member" is preferred because of his diploma, not because of his College.

Obviously the time has come when the surgical diplomates of the Colleges of Dublin, Edinburgh, and Glasgow must be called "Members."

I am, Sir, yours faithfully,

J. C. MCWALTER, M.D. Brux., F.R.F.P. & S. Glasg.

Dublin, March 5th, 1910.

ENTERIC FEVER IN INFANCY.

To the Editor of THE LANCET.

SIR,—I have read with great interest the recent article by Dr. Alice Oberdorfer and the subsequent letters of Dr. J. Allan and Dr. J. T. C. Nash in your columns, and as *recognised* cases of enteric fever in infancy are apparently somewhat rare, I think the following case is of special interest, as the child presented definite clinical signs and symptoms, gave a very distinct Widal reaction, and was one of four cases of enteric fever occurring in the same house.

On Feb. 9th three brothers, aged 13½, 11½, and 5½ years respectively, and a sister aged 13 months, were admitted to this hospital, notified as suffering from enteric fever. The eldest boy's blood gave a positive Widal's reaction before admission. The three boys were clinically evidently suffering from enteric fever and the blood of the two younger ones gave a definite positive Widal's reaction. I obtained the following history of the sister's illness from the mother. The infant had been healthy up to a week before admission, when she became feverish, peevish, and sleepless; she vomited frequently and the stools were loose and foul-smelling. On Feb. 7th the temperature was taken by the medical attendant and found to be 104°. On admission here the child showed signs of temporary malnutrition, but otherwise did not appear to be ill; the tongue was slightly furred; there were three doubtful fading rose spots on the abdomen, which was very slightly distended, and the spleen was just palpable; the temperature was normal, and remained so. The Widal reaction was markedly positive, there being immediate loss of motility and good clumping at once with a 1 in 20 dilution. The child had been breast fed, but the mother admitted that she gave her "some milk and a little sugar" at times. It is quite probable that had there not been other cases of enteric fever in the house the true nature of this infant's illness would not have been recognised. From a public health point of view the detection of such cases is of the utmost importance, as it is often the "missed" case which gives rise to trouble.

I am, Sir, yours faithfully,

JAMES FLETCHER, M.D., D.P.H. Aberd.,
Resident Medical Officer, Ham Green Hospital, Bristol.

Feb. 25th, 1910.

ADAMS *v.* POMEROY.

To the Editor of THE LANCET.

SIR,—I beg to acknowledge with sincere thanks the very great kindness of those who so generously contributed to the fund for the reimbursement of my legal expenses in the recent lawsuit Adams *v.* Pomeroy. The sum has now been handed over to my solicitors by the honorary secretary, Dr. L. Garrett Anderson, in order to defray my bill of costs.

I am, Sir, yours faithfully,

Twickenham, March 2nd, 1910. MARTHA ADAMS.

SOUR MILK.

To the Editor of THE LANCET.

SIR,—Fortunately, the therapeutic value of sour milk is not in great danger of being discredited by the reports of a few isolated cases of failure, nor by the published details of cases such as that of Lady Bancroft. It must be remembered, however, that a considerable percentage of persons who suffer from chronic intestinal toxæmias—the condition for which sour milk is most rationally prescribed—are, if not exactly neurotic, at least persons of nervous instability, and such individuals are apt to display curious and aberrant symptoms on very slight provocation. Such symptoms may, in fact, be quite unconnected with the cause suspected, or with any special therapeutic measures for the time being employed. It is the purpose of suggesting that some such unsuspecting cause may be the *fons et origo* of Lady Bancroft's illness that prompts me to take up my pen in defence of sour milk. In cases of this kind, in which the suspected cause only offers an unsatisfactory explanation of the symptoms, it is very important that the health record and sanitary history of the house in which the patient has contracted the illness should be thoroughly investigated. Has this been done in the case of the house in which Lady Bancroft lived? It is well known that owing to conditions of soil or of other factors in the environment the susceptible inmates of certain houses are liable to suffer from a syndrome of symptoms not unlike those described in the case of Lady Bancroft. Has this inquiry been made in the instance of her house?

I am, Sir, yours faithfully,

March 7th, 1910. ONLOOKER.

THE PUBLIC HEALTH AND THE PARIS FLOODS.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Paris, Feb. 27th.

No one imagined that the floods would invade 14,000 houses till the water was actually not only in the streets but in the basements. Then the water retired from the streets, though not from the cellars, with great rapidity, so that in cleansing the houses to render them fit for habitation extensive operations were necessary, for the authorities decreed that all dwellings must be cleansed and disinfected. Casual labour may be employed to sweep the streets, but the municipal authorities could not introduce inside private houses labourers recruited on the emergency and about whom they knew little or nothing. Dr. Henry Thierry is the chief of the Technical Services of the Prefecture of the Seine, and these comprise the ambulance services, the disinfection services, and the medical surveillance of the watersheds or gathering grounds whence Paris derives its supply of drinking water. At the moment when his time was largely devoted to the organisation of the ambulance service to be used for the rescue of the sick from certain flooded houses in the outskirts of Paris and bring them to the hospitals, there came the news that it would be necessary to disinfect at once thousands of houses. To help him to accomplish this apparently impossible task Dr. Thierry was offered the services of soldiers belonging to the engineers; but these soldiers, though trained to construct trenches, fortifications, and pontoon bridges, were not necessarily acquainted with the technique of disinfection. Besides they were not his men and he felt that he would have insufficient hold over them. Consequently he determined to use only the men who were employed by the municipality in kindred occupations. These men are well known and reliable because they hold a privileged position. As municipal servants they are entitled to a pension as well as to their salaries. Dr. Thierry took into his disinfecting service all the road menders and cleaners thus employed by the municipality and placed gangs of them under the leadership of trained disinfectors. Again, at the great cattle market of La Villette there is a staff of men regularly engaged to disinfect and clean the cattle sheds. These he drafted in. Finally, in the poorer quarters there are municipal agents whose daily mission it is to visit the public baths and see that they are kept in good condition. All these municipal

servants, though not actual disinfectors, have been instilled with the idea of cleanliness, and could therefore be easily taught how to disinfect. All this made an imposing aggregate of forces, yet it was doubtful whether they would suffice. However, in the explanations Dr. Thierry gave me he insisted over and over again that quality rather than quantity was needed. Systematic training and discipline had rendered all his usual disinfectors capable of acting as foremen, controllers, and teachers to the municipal employees drawn from the other services. Above all, it was absolutely necessary to engender the sense of personal responsibility. The imagination of the disinfector had to be developed so that he could fully understand the importance of the services which he was rendering and the disasters likely to result if his task was not satisfactorily accomplished. In such work the *esprit de corps* is as necessary as in military service; and, indeed, the Paris disinfectors are organised on the same lines as the firemen, who in France constitute an armed military corps of veteran soldiers. With the same discipline and promptitude they hasten to an infected house just as firemen go to extinguish a conflagration.

Having thus collected his forces Dr. Thierry divided them into three brigades. The first, or flying brigade, was sent to the weakest points. These men appeared as soon as the water left a street. They did not attempt to disinfect or clean all the houses but only those which seemed to be especially contaminated. This was notably the case where a cesspool had overflowed and some of its contents had been deposited in dwelling-rooms or shops. The foul air in these cesspools as they filled with water had been forced up into the houses, and when the inrush of water was particularly rapid the outrush of foul air came forth in due proportion, but the nuisance resulting depended mainly on the situation of the cesspool. There are still some old houses in Paris that have their cesspools under the staircase, and here the smell was abominable unless there was a good opening at the top of the stairs. Where the cesspools are in the yards the nuisance was not so acute, and perhaps the danger was also less. The water gained admission in some cesspools because they were leaky; and here it entered as soon as the subsoil was flooded and rose gradually with the flood. When the cesspools were, according to the regulation, thoroughly watertight, they could only be filled from above. In that case the water entered through the small hole made to lift up the lid or entrance of the cesspool, or else it came in by the closets in the various yards. Though in many cases there was no very dreadful odour, the overflow of a cesspool was considered as constituting the greatest danger. When it was a sewer that had overflowed into a house this was classified as of secondary importance, for then one had to deal with only fresh unfermented sewage, and this in a highly diluted condition. Such were the houses that were classified as the weakest points and were the first to be taken in hand. The second brigade of disinfectors were scattered here and there endeavouring to respond to the hundreds of complaints and reclamations of alarmed householders which were sent to the already distracted authorities. They dealt with individual circumstances as they found them. The third brigade worked in an absolutely systematic and deliberate manner. They did not rush wherever there was supposed to be the greatest danger or in response to the loudest lamentation. They went over the whole ground, examined everything with a view of estimating whether the damage was great or small, and saw that in every instance the prescribed precautions had been taken. The wealthy inhabitants were told what to do, and inspectors came round to see that the instructions had been faithfully observed. Those who were not very well off received partial help; the public disinfectors would select the most difficult rooms and leave the others to the inhabitants, setting thus the example as to how the cleansing was to be carried out. But if the inhabitants were undoubtedly poor the public servants at once took over the whole work themselves, with a competent surveyor on the watch so that the task should be done thoroughly.

Where, as was generally the case, the cellars were still flooded, they were left alone. Beyond throwing some disinfectants into the water nothing could be done. Pumps, being in great demand, could not be easily procured, and were of no use till the water in the subsoil had fallen to a lower point than the level of the cellars. Water still remains in a great number of cellars, and travelling up the walls by absorption is rendering the houses very damp and cold. There is a musty smell pervading such premises that adds to the unpleasantness of the situation, but nevertheless these houses are inhabited, for the persons who were driven out of the ground floors and shops by the waters have now, for the most part, returned. Where a large quantity of mud or slime on the walls or floors was found, moisture-absorbing gypsum was added to the mud to make it drier and easier to remove. When the resulting cakes had been shovelled away and deposited for removal on a pile in the street the disinfectors, using ordinary garden watering cans, saturated with an antiseptic solution all the walls and floors that had been affected by the inundations. Wet bedding, inferior furniture, and anything that was not of sufficient value to be sent to the disinfecting stoves, were thrown out into the street to be destroyed. What was most urgent was the destruction in the shops and restaurants of soiled articles of food. Many difficulties were anticipated, and it was expected that the owners would attempt to save at least a portion of their submerged stock, but on the whole the luckless proprietors were reasonable. Here came legal complications. Dr. Thierry and his staff had no legal right to deal with these goods because these were trading premises and not dwelling premises. They were therefore under the Prefecture of Police, and not the Prefecture of the Seine. But in the present emergency all these legal differences were to a large extent set aside.

The first on the spot did the work, and Dr. Thierry's men turned the foodstuffs, the vegetables, the flour, biscuits, bread, anything eatable, out into the streets. Here creolin, quicklime, whatever disinfectant was on the spot, was thrown over it, so that no poor people should try to pick anything out of the heap. The conscientious way this was done, not merely by the disinfectors, but by the people themselves, was truly amazing. In the presence of so gigantic a disaster these tradesmen, generally of very careful and saving a disposition, seem to have sunk in a splendid manner the sense of their own individual ruin. They gladly gave up the whole of their stock-in-trade to destruction since by so doing they might help to prevent an epidemic following upon the flood. They did not even attempt to obtain a written certificate of the loss they had experienced, as is done in war time, when troops requisition stores and private property. Dr. Thierry assured me that he had personally visited some 5000 houses and was utterly astonished by the willingness of the people and their eagerness to do whatever was right at whatever sacrifice. Thus, no great fear need be entertained by those living in Paris lest they should eat anything that has been soiled. The flood water contained sewage in such dilution that the risk might not have been great; but where fæcal matter has been carried inside a house by the overflow from a cesspool or broken soil-pipe there must be danger, and all foodstuffs in flooded premises were treated as dangerous. There are no statistics as yet forthcoming to show how often grave contamination has happened, but it has been a not infrequent occurrence.

The walls and floors of the inside of houses can be thoroughly scrubbed and cleansed with strong antiseptics, but in the cellars the ground generally consists of the bare earth. There is therefore a good deal of mud when the water subsides, and this is carefully scraped up and well mixed very generally with chloride of lime. The walls and ceiling must then be scraped and thoroughly whitewashed. All the rubbish found in the cellars is removed and destroyed. Some of this rubbish had been accumulating for more than half a century, and the Parisians are to be felicitated on the fact that it has now been cleared out. Indeed, the citizens are confessing to themselves that Paris has never been so clean before, though the cost of the cleanliness is terrific.

It seems strange, but nevertheless it is a fact, that the disinfectors sometimes found their task impeded because, though in the midst of the floods, they could not procure any water. In ordinary houses the drinking water-supply was available to mix with disinfectants in the water-cans used for the scrubbing of the walls and floors. But where the ragpickers and others live far away on waste land, where there are no real houses but only little temporary hovels and shanties, there is no water-supply at all. But the filthy stock-in-trade of these poor people and their dirty habits made more need of cleaning here than elsewhere. Consequently a chain had to be formed just as in the olden days

at a fire—that is, a row of volunteers passed the buckets along from the nearest public fountain.

Before the houses were rendered fit for rehabitation the aged, the infirm, and the sick had to be conveyed away in ambulances. It was on Jan. 24th that the Paris ambulances were first requisitioned to work in flooded districts. The flood reached its maximum on Jan. 28th, and on Jan. 31st, when the water commenced to withdraw, the disinfecting brigades were able to begin their work. Everybody was surprised by the rapidity with which both the ambulance and the disinfecting work was accomplished. The first ambulances were required at Ivry, Alfordville, and other outlying districts. Each carriage was accompanied by a fully-trained nurse. Many lying-in cases had to be removed by these ambulances and needed special care. Early in the day an experience was acquired that must be carefully noted in all towns and places likely to suffer from flood. The town of Paris was proud of its two brand-new motor ambulances, but they very soon proved to be of absolutely no use in the flood. Fortunately there are 40 ambulances drawn by horses, and the horses seem to have entered into the spirit of the thing and to realise that a disaster had occurred which called forth their special devotion. They unhesitatingly entered the icy water. At Ivry and at the Boucicaut Hospital the water reached the breasts of the horses when they arrived, and they thus waited in the half-frozen water for the patients to be brought down. In some cases the water continued to rise till it spread over the horses' backs. The lower portion inside the ambulance carriages was several inches deep in water. The coachmen, the nurses, and the horses were all equally devoted and equally useful, but when the motor ambulances went into the water the engines at once stopped. All that these splendid and expensive machines could do was to play the part of messenger boys. Of the many difficulties with which the administration had to contend, one of the greatest was the confusion in which the services were thrown by the sudden collapse of the telephones. It must also be borne in mind that cabs and taxicabs were difficult to obtain as, with the suppression of many of the ordinary means of communication, they were in great demand. Therefore the two motor ambulances were kept running in all directions with messages. The people doubtless thought they were conveying patients and that there must be a great deal of sickness prevalent, whereas they were in reality carrying orders for more scrubbing-brushes or messages to say that the chief of some department was too busy to come home for dinner.

In the course of 11 days about 800 helpless persons were removed by the ambulance service. A large proportion of the nurses remained on duty for 36 hours consecutively, and one nurse did not go home or to bed for 60 hours. Many persons have said, and newspaper correspondents have written, that the stress caused by the flood recalled the days of the great siege of Paris. It was just during the siege, as during this recent flood, that the population of Paris was seen to its greatest advantage. In every-day life the Frenchman is prone to do things leisurely. He cannot be militarised like the German. At Hamburg, after the last International Congress of Hygiene and Demography, we were shown the numerous laboratories, where many analyses were made and notably that of the water-supply. With some pride we were told that all this highly scientific chemical work was organised on military lines and the chemists kept under military discipline. This the French character could never endure, and, indeed, the Frenchman is slow over routine work. But in the face of an emergency the most idle and indifferent become heroes. Above all, they thirst to take some sort of initiative. Unlike the disciplined German, they scorn to await orders or instructions. There was an intense longing on the part of the population to be of use, and an absolute abnegation of self. The sole desire was to be active, doing something to invent some new sort of raft or boat, to devise some ingenious method of overcoming a difficulty. The most hare-brained fellows were often the most useful. Many such were set on bicycles and helped to replace the defunct telephone by the carrying of messages. It was inspiriting to see how they flew along, risking their lives over and over again to save a few seconds. No street block was dense enough to prevent their getting through. It was with the aid of such devotion that the 800 patients were removed in 11 days by 40 ambulances and the houses cleansed and disinfected almost as quickly as the water subsided.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

General Hospital.

THE X ray department of the hospital has been recently remodelled and enlarged, and now possesses one of the finest installations in the country. One member of the board generously offered to defray the cost of the new apparatus, amounting to £300, and another contributed several powerful arc lights. The whole of the apparatus is of British manufacture. Last year over 5000 exposures, varying from ten to twenty minutes' duration, were given for treatment, while a very large number were given for diagnosis. At present about 50 patients are under treatment by Mr. J. Hall-Edwards and Mr. F. Emrys-Jones, the radiographers to the hospital. The question of treatment by radium is under consideration. At present the hospital owns no radium, although several patients have been treated there by radium which is the property of the radiographers.

Birmingham and Midland Counties Sanatorium.

The forty-fourth annual report of the committee of this useful institution states that the number of patients last year was the highest on record, 1672, with an average stay of 17·8 days. The average number of beds occupied was 81·5. The income showed an increase for the year of £90 17*s.* 2*d.*, attributable chiefly to the growth of receipts from special subscriptions, the amount of income from this source being £1036 8*s.* 9*d.* The expenditure had decreased by £23 5*s.* 2*d.*, but there remained an adverse balance of £56 9*s.* 2*d.*, due mainly to the extension of the institution. The cost of maintenance of each patient was only 13*s.* 9½*d.* per week, which was a little less than last year.

Natural History Museum.

It has been a subject for reproach in Birmingham that the city does not possess a natural history museum. The idea of such an institution has been brought forward recently by the Natural History and Philosophical Society, which has been receiving gifts of natural history collections for some years past and holding them in trust until a municipal museum is built. It possesses a collection of Midland coleoptera, the work of the late Mr. W. G. Blatch; the Coombes collection of shells; the Hunter collection of miscellaneous natural history objects. An extensive collection of British insects, made by Mr. R. C. Bradley of Moseley, has recently been received. It contains 16,000 specimens, mostly collected in the neighbourhood of Birmingham. There is also a large collection of tropical birds beautifully mounted in the natural state. Now that the movement has been started it is hoped that many similar donations will be made by lovers of natural history.

Medical Inspection of Schools at Walsall.

The second annual report has just been issued. The children examined during the year were (*a*) those who have attained the age of five years, (*b*) those eight years of age, and (*c*) those leaving school. The total number inspected was 6658. The number of parents present was 2478, a considerable increase over the previous year. In 1940 cases notices of dirt or defects requiring attention were sent out. An analysis of the results of the examination gives the following among others: Dirty heads, 13·5 per cent.; defective teeth, 50·9 per cent.; defective sight, 7·8 per cent.; and defective hearing, 8·8 per cent. There were 13 objections to the medical examination, as against 8 the previous year. On the whole the children were fairly well clothed and fed. There was an evident advance in cleanliness, the percentage of dirty heads in 1908 being 27·6; of these the majority were girls.

March 8th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The State Registration of Nurses in Scotland.

THE annual meeting of the Association for the Promotion of the Registration of Nurses in Scotland was held in Edinburgh on March 3rd, when Lord Inverclyde, the President of the association, occupied the chair. In his opening remarks the chairman spoke of the objects of the association: these were to promote a system of registration of nurses, to protect

the interests of Scottish nurses, and to secure for Scotland such treatment as would enable it to obtain the fullest possible benefit from registration. He had put himself in communication with Lord Ampthill, who had passed a Bill through the House of Lords which was not acceptable to them in Scotland. Lord Ampthill had welcomed the suggestion that representatives of their association should join in conference with other associations to endeavour to arrive at a mutual understanding, and if possible to agree on the promotion of a Bill which would meet with the approval of the various interests concerned. Conferences had been held, and he thought he might say with satisfactory results, and the draft of a Bill had been agreed on which they who had the interests of the association at heart could consider almost entirely satisfactory. He took the opportunity of publicly stating how much they were indebted to Lord Ampthill, who presided at the conferences, for the fair and impartial manner in which he did his duty, and how much they owed to him for a general agreement being arrived at. The draft of the Bill had now been practically agreed on, but their difficulties were by no means at an end, for the Bill had to pass through both Houses of Parliament before it became law. Dr. D. T. Macintosh, the honorary secretary, gave an account of the proceedings of the association during the past year. He mentioned the steps which had been taken to protect the interests of nurses in Scotland, and said that had it not been for the action of the association Scottish nurses might have found themselves left out in the cold in the proposed legislation.

Edinburgh Town Council and Pulmonary Tuberculosis.

For some time past there have been references to proposals that the public health authorities of Edinburgh should coöperate with the Royal Victoria Hospital authorities with a view to mutual assistance. The proposal was that the public health authorities should have available the information collected by the Victoria Dispensary with regard to cases of consumption, and that a limited number of beds in the hospital should be placed at the disposal of the medical officer of health, the patients to be under his observation. The cost it was suggested should not exceed £1000 per annum. These proposals were considered a few days ago by a public health subcommittee. This subcommittee first dealt with the proposal to subsidise the dispensary, in return for which the medical officer of health should get the benefits of the records and other information connected with the cases there dealt with. It was agreed that such an arrangement be recommended, the corporation giving a contribution of £450 a year, which should be used for extending the work and usefulness of the dispensary. With regard to the second part of the proposal there was an alternative scheme that instead of 10 beds in the Royal Victoria Hospital being set aside and placed at the disposal of the medical officer of health, the committee should consider as to providing accommodation independently at the Colinton City Hospital. The object of this part of the scheme was to enable the medical officer to remove early cases of tuberculous disease from small houses, with a view to diminishing the risks of infection. There were beds provided at the Colinton Hospital for patients in the last stages of consumption, and it was argued that the necessary number of beds might be set aside there for the reception of early cases. On this point there was a strong difference of opinion on the subcommittee, and its further consideration was postponed.

Glasgow Hospital Sunday Fund.

The total income under the Glasgow Hospital Sunday Fund this year amounts to £4648 17*s*. This is a decrease of £328 from the amount collected last year, but no doubt that is partly to be explained by the fact that the Sunday on which the collection was taken was one of the most inclement in the year. By the directors in charge of the fund the sum set aside to be distributed among the infirmaries was £4430, and that was allocated as follows: Royal Infirmary (594·7 beds), £1895 6*s* 9*d*.; Western Infirmary (545·3 beds), £1737 18*s*.; Victoria Infirmary (250 beds), £796 15*s*. 3*d*. After meeting the working expenses a balance of £2 17*s*. 10*d*. is carried forward to next year. During the 17 years that the fund has been in operation £76,351 have been provided for the needs of the three general hospitals of the city.

Honour for Glasgow Graduate.

The King of Italy has conferred on Surgeon James C. Bringan, R.N., the decoration of a Knight of the Order of the Crown of Italy in recognition of valuable services rendered by him on the occasion of the Messina earthquake. Surgeon Bringan, who is at present serving in H.M.S. *Bacchante* on the Mediterranean station, is a native of Newton Mearns and a graduate in medicine of the University of Glasgow.

The Dangers of Gelignite.

It is probably owing to the fact that Glasgow is the centre of a large mining district that so many accidents have occurred within a very short period through the careless handling by miners of gelignite in their own homes. Gelignite cartridges, which are largely used as explosives for blasting purposes, when required for use have to be thawed, but thawing to be properly done requires the explosive to be put in hot water away from a naked flame. Apparently familiarity has bred contempt, for it has been ascertained that some miners have been in the habit of bringing gelignite cartridges home with them and leaving them about the house. That, of course, in itself would be a dangerous proceeding where children, not realising the risk, might have tampered with the explosive. But it is difficult to explain the foolhardiness of men, who, as in the last two accidents reported, put cartridges on the hob of the grate to thaw. In one case the person who put the cartridges there sat down on a chair during the process of thawing and the result was an explosion leading to loss of life. In another case the kitchen grate was blown into the middle of the floor and serious injury was sustained by the occupant of the house.

Sidlaw Sanatorium.

With regard to the transference from the executive of Sidlaw Sanatorium to the directors of Dundee Royal Infirmary of the endowment fund, to enable the latter to assume control of the institution under the gift of £1000 per annum for ten years from Mr. J. K. Caird, the executive of the sanatorium, acting on the advice of the town clerk, secretary of the institution, has sought and obtained opinion of counsel—the Lord Advocate, Mr. William Hunter, K.C., M.P., and Mr. H. P. M. Willan—on the matter. The total of the endowments is about £18,000, and according to the agreement come to between the two bodies the rights of the donors to nominations of beds are to be conserved; but the question was what steps to take to obtain power to hand over the endowment to the new governing body under a new set of conditions. The opinion of the above-mentioned gentlemen is that the promotion of a provisional order will be the proper procedure. A meeting of the executive will be held immediately to deal with the matter, and in view of the fact that if an order is to be obtained during this session of Parliament notice must be given before March 28th, no time can be lost in making preliminary arrangements. No opposition is expected on the part of the contributors to the endowment fund and the expenses will not be great.

The New Charter of the Montrose Asylum Board.

A communication has been forwarded from the General Board of Lunacy to the managers of the Montrose Asylum and Infirmary Board, asking to be informed as to the precise position which the asylum house committee of seven will occupy towards the new Asylum Board. They ask if the proposed new committee will stand in the same relationship to the new board which the present house committee does to the present managers, if it is contemplated that the asylum committee shall have under the new charter wider and more independent powers, and, if so, of what nature and under what limitations. The managers of the asylum have unanimously agreed to reply that they did not in drawing up the scheme contemplate any alteration in the powers of the house committee, which the managers thought were already sufficient.

March 8th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Dairies, Cowsheds, and Milkshops Order: Working Expenses.

THE "financial relations" of district councils and the Dairies, Cowsheds, and Milkshops Order of 1908 have recently been brought out into a clearer light in the South of Ireland. Following an example which had been set in the county Limerick, a district council in Wexford suggested that one-half of the costs of carrying out the Order should be borne by the Local Government Board. The reply of the latter

body proves that more than one council in this country has to its credit (from the fund established under Section 58 of the Local Government Act) a balance which is available as a contribution to the salary of the veterinary inspector appointed under the Order. As the chairman took the opportunity of observing, the district council is a little richer than had been imagined, and by-laws are now to be submitted to the Local Government Board for its sanction.

The Children's Hospital, Temple-street, Dublin.

The Children's Hospital, Temple-street, Dublin, was made the subject of an eloquent appeal on Sunday last. A sermon was preached in the Church of St. Teresa, Clarendon-street, with the object of aiding the funds of the institution, which occupies a unique position among the very numerous hospitals of the Irish metropolis. It is under the charge of the Sisters of Charity, "the Spiritual Daughters of Mary Aikenhead," the benevolent foundress of St. Vincent's Hospital; and the fact is indisputable that it is to the example of those ladies in their care of the sick poor that the profession and the public owe medical advances in the nursing and hygiene of our various hospitals, which were sternly opposed by the ruling powers at the time of their first movements. The collection which was made after the sermon showed a very generous response on the part of the congregation.

Lady Dudley's Nursing Scheme.

Public attention is once more being called to Lady Dudley's nursing scheme, which was inaugurated to maintain fully qualified nurses for residence in the poorest districts on the West Coast of Ireland for the purpose of rendering professional services to patients in their own homes, free of all expense; and at the same time of educating those poor people in the principles of hygiene and sanitation. It has been truly said that few philanthropic movements have been attended with more beneficial results than Lady Dudley's scheme. Nurses have been located in 18 of the poorest centres of the western population of Ireland, extending in series from Donegal, down through Sligo, Mayo, Galway, Clare, and Kerry, to West Cork. The assistance and advice offered by the efficient staff of nurses thus provided have produced a marked improvement in the physical conditions of the poorest and most ignorant of the peasantry of those localities. The most convincing testimony to the local appreciation of their work in their allotted districts is that increasing demands have been pouring in upon them from the surrounding localities. For the purpose of extending the spheres of usefulness of the various nursing centres already established, and of providing further aid in the same direction, the committee which has charge of the management of the nursing scheme is now endeavouring to obtain the support of the public.

Health of Belfast.

At a meeting of the city council of Belfast held on March 1st it was reported that between Jan. 23rd and Feb. 19th the death-rate was 21·5 per 1000. During this period 88 cases of infectious disease were notified—viz., 54 scarlet fever, 21 erysipelas, 3 puerperal fever, 5 diphtheria, 4 typhoid fever, and 1 simple continued fever. The epidemic of scarlet fever is slightly abating, the notifications being 54, while in the previous month they were 70. The medical officer of health speaks of the unwillingness of parents and others to consent to the removal of patients, and urges that 90 per cent. of the cases of scarlet fever should be treated in hospital, as circumstances suitable to nurse such cases are the exception at home. There were 64 deaths from whooping cough (as compared with 3 in the same period of last year) and 233 from chest affections, as compared with 181 for the same period of the previous year.

Obituary: Isaac C. Dundee, M.D. R.U.I.

A well-known medical practitioner in the person of Dr. I. C. Dundee died at his residence, Carnmoney, Co. Antrim, on March 1st, from apoplexy, after an illness of three weeks' duration, at the early age of 55 years. As a student Dr. Dundee was at Queen's College, Belfast, and in 1877 he obtained the M.D. of the Royal University of Ireland. After graduating he went to India, where for 12 years he resided, holding an important local medical position. Coming home he settled down in his native place Carnmoney, and 15 years ago he succeeded his late brother as medical officer of the Carnmoney Dispensary District—a post previously held by his father. He filled the office to the entire satisfaction of the guardians and of the poor, and was greatly liked by all who came in contact with him. Dr. Dundee leaves a widow and a family of two sons and two daughters, with whom in their bereavement sincere sympathy is felt. At a meeting of the Belfast board of guardians held on March 1st a vote of condolence with his widow and children was unanimously passed, and the chairman mentioned the interesting fact that for almost 60 years Dr. Dundee's father, brother, and himself had been in succession dispensary medical officers at Carnmoney.

March 8th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Relations between Human and Bovine Tuberculosis.

THE Imperial Health Office has lately carried out a collective investigation to determine whether the use of milk from cows suffering from tuberculosis of the udder is harmful. A report of Professor Kossel shows that the investigation included only the six States of Prussia, Bavaria, Saxony, Würtemberg, Baden, and Hesse. The investigations were carried out by government veterinary inspectors, who were asked to find out actual cases in which the milk of cows with tuberculous udders had been used by the public. When a case was discovered it was notified to the district officer of health by the veterinary inspector, and with the aid of other medical practitioners investigation was made as to the influence of the tuberculous milk on the health of the respective persons. The case was then reported to the Imperial Health Office, which undertook to state by bacteriological investigation whether in the morbid products examined the tubercle bacilli were of the human or the bovine type. In the latter case only could the eventual disease be attributed to the milk. From 1905 to April, 1909, 113 cases of tuberculosis of the udder were reported in cows the milk of which had been used by 628 people. In 44 cases the milk had been used boiled, but in the remainder in the raw state, the latter category including 69 cases with 360 consumers. Of these 360 people only two children in their second year were found to have been infected by the milk. Both had swollen cervical glands containing tubercle bacilli of the bovine type. They had taken the milk raw over a considerable space of time. On re-examination after two and a half and one and a half years respectively they were found to be in good bodily condition. The other members of the family, including children between 4 and 12 years of age, who had likewise used the milk remained healthy. Apart from these two positive instances, there were a number of suspected cases in which swelling of the cervical glands was present, but no bacteriological examination was made. It was a characteristic feature of all these cases that in none of them was there any progress in the affection of the glands, but, on the contrary, a decrease was found after a period of several months. Of 360 people who had taken raw milk from tuberculous cows there was evidence of infection in two only and 12 cases were suspected; in 346, of whom 136 were children, the milk had proved innocuous. Of 268 people, including 183 children, who had taken the milk boiled, 12 children and 1 adult showed swelling of the cervical glands. Professor Kossel concluded that the danger arising from the use of the milk of tuberculous cows is small in comparison with that arising from persons suffering from tuberculosis of the lungs.

Medical Society Demonstrations.

Before the Medical Society Dr. Peltesohn showed a girl of 24 years of age with Multiple Exostoses on the Ribs, the Scapula, the Arms, and Legs. The first exostosis had developed on the left fibula in the third year of age and the others gradually until the seventeenth year, when the girl had first menstruated. Since that time no other exostosis had appeared. The tumour on the fibula had grown to the size of an apple. The characteristic feature of the case is that a severe paralytic club-foot had developed on this side; this deformity was obviously caused by a compression of the peroneal nerve by the exostosis on the head of the fibula; all the muscles supplied by the peroneal nerve were paralysed, the extensors of the foot and of the toes,

the abductors, and the tibialis anticus muscle. The patient in walking treads upon the outer edge of the foot. The electrical reaction of all the paralytic muscles is totally absent. The club-foot developed in accordance with the progressive growth of the exostosis of the head of the fibula. Dr. Peltesohn intended to perform an operation, removing the growth to liberate the nerve from the compression, reducing the club-foot, and shortening the lengthened tendons. Professor Holländer reported the case of a lady who lost an incisor tooth owing to alveolar pyorrhœa and replaced the tooth herself on the same evening. The loose tooth became strongly fixed in its socket by an accumulation of tartar, which became within two years so great that it filled the whole of the sublingual fossa, forming in this way a natural solid prosthesis. She was able to remove this prosthesis every morning for cleaning purposes and to replace it again. It is interesting that in the patient a tendency to form concretions existed, as she suffered from cholesterin gall-stones, as was proved by operation.

March 7th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Plague.

THE plague returns for the week ending Jan. 22nd show 10,928 deaths, compared with 10,467 in the week preceding. Bombay Presidency reported 759; Bengal, 1222; the United Provinces, 5085; Punjab, 1624; Burma, 181; the Central Provinces, 1184; Mysore State, 90; Central India, 50; and Rajputana, 679.

Small-pox in Calcutta.

After remaining empty for several months the small-pox wards of the Campbell Hospital at Calcutta have quite unexpectedly had to take in four patients within the last few days. Two of them are Europeans and the other two are Indians. Of the former, the first to come in was the engineer belonging to a steamship, and the other is a military medical student attached to the Medical College Hospital. One of the two Indian patients hails from Fort William, the other being a native seaman. All four cases are of the mildest type and quick recoveries are expected. Judging from these sporadic cases there seems to be nothing in the shape of small-pox in the city, three of them coming from the same direction—namely, the port and the shipping. As regards the medical student he was admitted very soon after his arrival from Allahabad. It is not expected, says a Calcutta paper, that the disease which has ravaged Calcutta for three years in succession will appear again this year in an epidemic form.

Compliment to an Officer of the Indian Medical Service.

At a recent mass meeting of the citizens of Kangra a resolution was passed to the effect that the meeting desired to record its great appreciation of the services rendered to the district by Captain Herbert Halliday, I.M.S., civil surgeon, Dharmsala, and to express its regret at his leaving the district. A hope was also expressed that the Government would give Kangra another European officer of the Indian Medical Service to succeed him.

Spectacles for Troops Serving in India.

It is interesting to note that in many cases the vision of third-class shots has been much improved by the use of spectacles. In the 1st Northamptonshire Regiment a third-class shot became a first-class shot. In the 1st Queen's a man who just missed being a third-class shot became a first. In the 1st Oxfords one failed and two third-class shots became second-class and one third-class became a first. In the 1st Cameronians one improved from non-effective to a second-class shot. In the 1st Royal Scots Fusiliers one third-class shot became a second-class shot. These results are due to action taken by the medical authorities in 1907 when the eyesight of several selected regiments was carefully examined by army medical specialists in ophthalmology. Recommendations based on these examinations were made and the Government of India granted a free issue of suitable glasses to those men requiring them.

The Prevention of Malaria in Bombay.

That the anti-malarial campaign in India shows no signs of losing its vigour in certain regions of the peninsula where the evil has claimed most serious attention is amply witnessed by the last report issued by the executive health officer, Bombay. During the fourth quarter ending Dec. 31st, 1909, strenuous work was done by the anti-malarial department of the Presidency with the aid of a special staff sanctioned by the Bombay corporation for a period of six months. This staff, consisting of 10 sub-inspectors with 10 gangs of five men each specially trained for anti-malarial work in the different wards of the city, began its operations on Oct. 1st last. The sub-inspectors, distributed over the different wards of the city and put in charge of sections working under the supervision of the respective sanitary inspectors controlled by the deputy health officers and other representatives of the executive health officer, paid recurring visits to all premises within their jurisdiction, inspecting wells, cisterns, tanks, masonry-built watering places, empty tins, casks, and stagnant water, with a view to the detection of the breeding places of mosquitoes. In the event of detection the affected places were whenever possible treated with "pesterine," and if anopheles larvæ were found letters were addressed to the occupiers asking them to fill in, clean, or hermetically seal up the tanks and wells, or remedy the nuisance by other means. Steps have been taken to see that these requisitions have been carried out by subsequent inspections, and where it has been found that the department's demands have been ignored provision has been made for proceeding against the offending party in a court of law. The report indicates a considerable amount of opposition on the part of owners of wells, but the department has been firm, and that coöperation which, if willingly afforded, would be of marked value to the public health has not failed to be enforced, where need has been, by coercive pressure. The executive health officer urges reasonable support on the part of those who can give it, but he has clearly indicated that where it is withheld the department will not shirk its clearly defined duty.

Jan. 29th.

Obituary.

THOMAS WEBSTER, L.R.C.P. LOND., M.R.C.S. ENG.

Mr. Thomas Webster died at his residence, Malvern House, Redland, Bristol, on Feb. 12th, in his ninety-second year. He was born at Gorey, in the county of Wexford, and eventually proceeded to enter Trinity College, Dublin. His original intention was to take holy orders, but he finally decided to enter the medical profession. Whilst in Dublin he was a pupil of the late Sir William Wilde. In 1858 Mr. Webster came to England, and after being a student at the Bristol Medical School he obtained the M.R.C.S. qualification in the same year. In 1866 he obtained the L.R.C.P. Lond. Mr. Webster was very popular in Bristol and at one time had a very extensive practice. He was formerly on the honorary staff of the Bristol Children's Hospital, while he took a great deal of interest in the Bristol Deaf and Dumb Institution and formerly had a considerable local reputation as an ophthalmic and aural surgeon. The funeral took place at Redland Green Churchyard on Feb. 14th, in the presence of a large gathering, which included many of the poor, to whom the deceased was always kind.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. J. E. Chatard, formerly on the staff of the Bordeaux hospitals.—Dr. Arthur Bordier, professor of natural history in the Grenoble Medical School.—Dr. Ernst Dayo, formerly professor of clinical surgery in the Rennes Medical School.—Dr. J. Roux, of the St. Étienne hospitals.—Professor G. Bezzi, of Reggio, who claimed to have used the antiseptic system in surgical practice before Lister. His age was 88 years.—Dr. Samuel Rona, extraordinary professor of dermatology in the University of Budapest and director of the skin and venereal department of St. Stephen's Hospital. He was 52 years of age, and his death was due to septic poisoning from a case of erysipelas.—Dr. Robert H. Fegers, professor of dermatology in the Keokuk Medical College.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At a Congregation held on March 5th the following degrees were conferred:—

M.D.—C. V. Bulstrode, Trinity; and C. D. Edwards, St. John's.
M.B.—H. B. Weir, Trinity; C. F. Searle, Pembroke; and L. B. Perry, Queen's.
B.C.—A. L. Singer and G. H. H. Waylen, King's; H. B. Weir, Trinity; and G. G. Alderson, Caius.

UNIVERSITY OF OXFORD: PHILIP WALKER STUDENTSHIP, 1910.—The board of managers have reported to the Vice-Chancellor that they have elected to the studentship Mr. William Ray, B.Sc. Oxon., M.B. Adelaide, Magdalen College.

LONDON SCHOOL OF TROPICAL MEDICINE (UNIVERSITY OF LONDON).—In order that those who are about to reside in the tropics, and especially the representatives and employees of commercial and industrial undertakings, may be afforded an opportunity of acquiring a knowledge of the cause and spread of tropical diseases and the means of prevention, the London School of Tropical Medicine has arranged for a course of lectures to be delivered (by kind permission of the West India Committee) at its headquarters in Seething-lane. Lectures will be delivered at 4 P.M. on March 14th, 17th, and 21st. Tickets can be had on application to Mr. P. Michelli, secretary to the school, or to Mr. Algernon E. Aspinall, secretary to the West India Committee, at 15, Seething-lane, London, E.C. These lectures are delivered as a sequence to those already given by Professor W. J. R. Simpson at the London Chamber of Commerce.

ANOTHER SCHOOL CLINIC PROPOSED FOR LONDON.—Proposals by a committee appointed at a meeting of medical practitioners in Norwood for the purpose of coöperating with the London County Council in the medical treatment of school children came before the Education Committee on March 2nd. The local committee proposed to obtain premises near West Norwood station and with access to the tramways, and to establish there a centre for the treatment of 2000 children suffering from affections of the throat and ear, eye, and skin (chiefly ringworm). The committee asked that the Council should provide equipment estimated to cost £175, and should arrange for the services of a nurse on six half days a week; otherwise the terms were similar to those agreed upon with the Hampstead medical men, as reported in THE LANCET last week (p. 671). The Education Committee accepted the offer in respect of 1500 children, and agreed to the terms, except with regard to the proposed equipment grant, which it is not within the power of the Council to make.

CHELSEA CLINICAL SOCIETY.—The annual dinner of this society was held at the Gaiety Restaurant, Strand, London, on March 3rd, under the genial chairmanship of Mr. Leonard A. Bidwell, the President of the society. Covers were laid for nearly 100 guests and the proceedings were marked with great enthusiasm. The President, in proposing the toast of the society, gave an interesting description of how successful the meetings of the members were, and mentioned that the liberty to indulge in smoking tobacco tended to render their deliberations popular. In replying to this toast Dr. J. Barry Ball made some eulogistic remarks on the virtues and capabilities of what he called the staunch members of the society, including amongst these Dr. Austin E. Cooper, the treasurer, and Mr. J. Foster Palmer. Dr. Samuel West, in replying to the toast of "The Kindred Societies," which was proposed by Dr. Eric Pritchard in a humorous speech, said that one of the reasons why the Medical Society of London did not join the Royal Society of Medicine was that the society would have lost its individuality, which would have been merged in the large society and their identity would have vanished. Further, it had to be remembered that there were two classes of societies—one for specialists and the other class consisting of general societies. The Royal Society of Medicine was very largely a specialists' society, and specialists' societies were very good of their kind and the members naturally liked to meet, but, on the other hand, societies like the Medical and the Chelsea Clinical held a very different position. The objection to specialists' societies was that they tended to be more or less narrow in their views and he proceeded to show how difficult it was to avoid this defect. The toast was also acknowledged by the Mayor of Chelsea. After Mr. Charles Ryall had in felicitous terms given the health of the chairman, the proceedings concluded with a short reply from that gentleman.

LONDON OPHTHALMIC EXHIBITION.—The Conferences arranged for 8.30 P.M. on Friday, March 11th, and Saturday, the 12th, at 4.30 P.M., have been postponed.

THE HOSPITAL FOR INVALID GENTLEWOMEN.—On March 7th H.R.H. the Princess of Wales opened the new premises of this hospital in Lisson-grove, which has been built to the designs of Mr. C. W. Ferrier.

A CORNISH CENTENARIAN.—At a meeting of the St. Austell board of guardians held on Feb. 25th it was decided to allow 10*s.* weekly to Mrs. Mary Matthews. She is 106 years of age, and lives at Tywardreath with her daughter, who is more than 80 years of age.

COLONIAL MEDICAL APPOINTMENTS.—The following gentlemen have been appointed to the West African Medical Staff: Dr. T. F. Bayfield (Gold Coast), Mr. W. J. B. Carter (Gold Coast), Mr. G. J. W. Keigwin (Gold Coast), Dr. A. Lundie (Gold Coast), and Dr. W. H. Sieger (Southern Nigeria).

THE IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.—The Irish Medical Schools and Graduates' Association will hold its annnal dinner on March 17th (St. Patrick's Day) in the Indian Room, Hotel Cecil, at 7.15 for 7.30 P.M. Sir Alfred Keogh, K.C.B., President of the Association, will occupy the chair, and the guest of the evening will be Sir William Selby Church, Bart.

DONATIONS AND BEQUESTS.—By the will of the late Mr. Edward Stocks Massey of Rochdale, Lancs, the Robinson Kay Home for Incurables, Bury, will receive £1000.—Among other bequests the late Mr. John Gower, Marychurch, has bequeathed over £1000 to the Cardiff Infirmary, and to the Dunfermline Cottage Hospital such sum as may be needed to found a bed.

THE HEALTH OF ILFRACOMBE.—Dr. E. J. Slade-King, medical officer of health of Ilfracombe, in his annual report for 1909 states that the birth-rate was 16·4 per 1000. The death-rate was 15, exclusive of visitors 12·9, per 1000. The average death-rate, excluding visitors, for the past eight years was 12. The infant mortality was 92·7 per 1000 births. The death-rate from the seven principal epidemic diseases was 0·5. The number of inhabited houses are 1819; the average number of persons per house was 4·7.

SOCIETY OF APOTHECARIES OF LONDON.—At a meeting of the Court of Assistants of the Society of Apothecaries held on Feb. 8th, Mr. Arthur T. Norton, C.B., F.R.C.S., was elected as the representative of the Society upon the General Medical Council for the ensuing year. Mr. E. Parker Young, M.R.C.S., L.M., L.S.A., was re-elected as representative of the Society on the Central Midwives Board. The Court also passed the following resolution:—

That inasmuch as the absence of any provision for the payment of medical practitioners when called in on the advice of midwives in accordance with the "Midwives Act" is causing serious injury, the Government be respectfully urged to carry into effect the recommendation of the Departmental Committee on this subject as soon as possible, and that a copy of this resolution be forwarded to the Prime Minister, the Lord President of the Council, and the Members for the City.

THE TEACHING OF PARTIALLY DEAF CHILDREN.—Medical inspection having revealed the fact that there are in the public elementary schools a large number of partially deaf children, the Education Committee of the London County Council on March 2nd decided to make the experiment of providing at one of the schools a special class for children so afflicted. There are already schools for the deaf, but the day schools subcommittee stated that partially deaf children require for their proper development not only training in lip-reading and articulation, but a curriculum of a more extensive kind than that provided in schools for children who are quite deaf. The environment also is not suitable for partially deaf children, as it is desirable that they should mix with hearing children as much as possible. To that end the "hard-of-hearing" classes would be carried on in the classrooms of the

ordinary schools, when the children would mix with the others at recreation. The experimental class will be held at Ackmar-road School, Fulham.

THE BROWN DOG.—The fate of the Brown Dog Memorial was decided by the Battersea borough council at its meeting on Wednesday night last, when it was resolved by 42 votes to 4 to have the memorial removed.

LITERARY INTELLIGENCE.—Mr. H. K. Lewis, of 136, Gower-street, London, W.C., has ready for early publication a collection of studies and essays by the late Dr. Thomas Logan. The collection will be issued in three volumes, entitled "Biological Physics, Physic and Metaphysics." The editors are Dr. Quintin McLennan and Mr. P. Henderson Aitken, M.A., B.Sc., D.Litt. The same firm has just issued Professor Feodor Krause's "Surgery of the Brain and Spinal Cord, based on Personal Experiences," translated by Professor Herman A. Haubold; and the second volume of Binnie's "Operative Surgery," completing the fourth edition of the work.

HONOUR FOR A PRESTON MEDICAL MAN.—At a meeting of the Preston town council on Feb. 24th it was unanimously decided to confer the honorary freedom of the borough upon Mr. R. C. Brown, M.B. Lond., F.R.C.P. Lond., F.R.C.S. Eng. Dr. Brown is one of the most esteemed citizens of the borough of Preston and one of its oldest inhabitants, having been born in 1836. His father, Robert Brown, was a Fellow of the Royal College of Surgeons of England and an alderman. Dr. R. C. Brown has led a very active professional career, and has munificently subscribed to the Preston Royal Infirmary and various charities of the borough. As recently as Feb. 5th we referred to the new buildings of the Royal Infirmary and to other objects which were the gifts of Dr. Brown. We congratulate him upon his well-deserved honour.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Dogs Protection Bill.

THE Dogs Protection Bill, which was brought into the House of Commons by Sir FREDERICK BANBURY, is published. It declares it to be unlawful "to perform any experiment of a nature causing or likely to cause pain or disease to any dog for any purpose whatsoever, either with or without anæsthetics, and no person or place shall be licensed for the purpose of performing any such experiments."

Royal Army Medical Corps (Territorial).

Mr. HALDANE, the Secretary of State for War, in a statement with regard to the numbers of the Territorial Forces on Jan. 1st, 1910, mentions that the establishment of the Royal Army Medical Corps is 1439 officers and 13,665 non-commissioned officers and men. The actual strength is somewhat lower, being 1128 officers and 11,421 non-commissioned officers and men. These figures include 741 Royal Army Medical Corps officers of general hospitals and sanitary service available on mobilisation, and 840 officers of Officers Training Corps and officers on the unattached list.

Parochial Medical Officers' (Scotland) Bill.

Mr. CATHCART WASON has introduced into the House of Commons a Bill to amend the law relating to the tenure of parochial medical officers in Scotland. The measure is supported by Mr. AINSWORTH, Mr. HARMSWORTH, Sir JOHN DEWAR, Mr. BEALE, Dr. CHAPPLE, Sir HENRY CRAIK, Viscount DALRYMPLE, the Marquis of TULLIBARDINE, Mr. MACKINDER, and Mr. G. YOUNGER.

Poor-law Children.

The report which Miss ETHEL M. N. WILLIAMS, M.D., D.P.H., and two other ladies have made to the Royal Commission on the Poor-laws, on the condition of the children who are in receipt of various forms of Poor-law relief in England and Wales, has just been presented to Parliament as a Blue-book.

The Inspector of Army Medical Services.

Lord CLAUD HAMILTON asked the Secretary of State for War what were the special circumstances which called for the creation of the appointment of Inspector of Medical Services; and what were the particular duties performed by this officer which were not already performed, and had been in the past, by administrative army medical officers of divisions and districts.—Mr. HALDANE answered: The appointment of Inspector of Medical Services was made on the recommendation of the Inspector-General of the Forces with a view to placing the medical services in line with the other arms of the service in regard to independent inspection. The special duties of the inspector are to report to the Army Council as to the manner in which the sanitary and administrative work of the army is being carried out and to assist in coördinating methods of medical inspection. These duties are fully set forth in paragraph 26, King's Regulations.

The Army Estimates.

Mr. HALDANE, in making his annual statement on the Army Estimates, made several allusions of interest to the medical branch of the service. He said that there would be funds available to be expended on special manœuvres in the Southern Command to test the efficiency of the Army Medical Service in the field. Speaking of the Territorial Forces, he said that the county associations had done good work during the year. In this connexion he remarked that the Red Cross work was being brought into line with the work of the associations by the establishment of medical units for the purpose of conveying the wounded from the front to the general hospitals where, in the event of the invasion of this country, they would be treated. That work was being taken up under the organisation of Sir ALFRED KEOGH, Director-General of the Medical Service. What Sir ALFRED KEOGH advised had been carried out by all classes, with the result that the country had every prospect of being covered by a network of organisations which would be very valuable for other than war purposes. The first thing that was taught to those who joined the associations, women as well as men, was to enable them to deal with accidents and ordinary medical cases, which he thought was a very valuable piece of training. The Army Medical Corps had done good work in reducing disease and illness. The improvement of hospitals was progressing. This year the enlargement and improvement of Arbor Hill Hospital had been in hand, and next year Chatham and York Hospitals would be dealt with and a new hospital would be commenced at Tidworth. Officers' wards were now being provided at various hospitals. The alterations to provide these at Millbank were in hand. There would be in the future no difficulty in officers obtaining up-to-date accommodation when sick and injured.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 2ND.

Infantile Mortality in Poor-law Institutions.

Mr. WEDGWOOD asked the President of the Local Government Board whether he could yet take steps to obtain the information as to the rate of mortality in Poor-law institutions of children between the age of two and five years, and the rate of mortality under one year of age of infants being maintained on outdoor relief, the absence of which was noted and regretted in the reports of the Poor-law Commission.—Mr. BURNS answered: The whole question of obtaining more and better statistics on Poor-law matters is receiving attention, but I am not yet in a position to give particulars as to the figures which will be collected with a view to meeting the suggestions of the Royal Commission. I may mention that an inquiry is now being undertaken by Dr. Darwall Smith on behalf of my department as to the causes of mortality among new-born babies.

Disease in Mines.

Mr. RICHARDS asked the Secretary of State for the Home Department whether his attention had been called to a report of the medical officer of health to the Ebbw Vale urban district council that certain workmen had died in consequence of a disease they had contracted through the insanitary conditions of the mine they were employed in; and would he instruct the Royal Commission on Accidents in Mines to include in their investigations an inquiry into the sanitary conditions of underground workings.—Mr. CHURCHILL replied: My attention had not been previously called to the report referred to, but I will make inquiry into the circumstances of the case. As regards the last part of the question, the honourable Member will find that the Royal Commission deal with the subject of the sanitation of underground workings in their second report and make certain representations.

THURSDAY, MARCH 3RD.

Military Assistant Surgeons in India.

Mr. HAZLETON (for Mr. KETTLE) asked the Under Secretary of State for India whether the medical diploma which was held to be sufficient for military assistant surgeons in India was also in all cases sufficient to entitle the holder to be registered under the Medical Acts and to be recognised as a qualified medical practitioner in this country.—Mr. MONTAGU replied: No, sir.

Mr. HAZLETON further asked the honourable gentleman whether the senior assistant professor at the Medical College, Madras, and the senior assistant surgeon at the General Hospital, Madras, were military assistant surgeons; and whether they possessed any additional qualifications for these important positions.—Mr. MONTAGU answered: I beg to refer the honourable member to the answer given by my predecessor to a question by the honourable Member for Galway North on Oct. 21st last. The Government of Madras has doubtless satisfied itself that the holders of the posts possess the qualifications necessary to enable them to fill them.

Mr. HAZLETON also asked the honourable gentleman whether his attention had been called to a resolution unanimously adopted at a meeting of members of the medical profession, held under the auspices of the Bombay Medical Union, submitting that the present system of reserving all important posts in the medical service of India for military officers of the Indian Medical Service had led to the entire exclusion from these posts of Indian civil doctors, however high their qualifications; whether he was aware that the present system caused much discontent and was the occasion of unnecessary expense; and whether he could hold out any hope of early reform.—Mr. MONTAGU replied: The Secretary of State has not seen the resolution referred to. From answers given to previous questions and from the papers presented to Parliament last year, the honourable Member is aware that action has been taken with a view to increasing the number of Government

medical appointments held by unofficial medical men in India. The process must inevitably be a slow one, and the Secretary of State is not in a position to make any further statement at present.

Society of Apothecaries of London Bill.

The Society of Apothecaries of London Bill was on the paper for second reading as a private Bill.

The SPEAKER said: With reference to this Bill, it is one which seeks to empower the Society of Apothecaries of London to grant diplomas in sanitary science, public health, State medicine, school hygiene, and tropical medicine, and also for dentistry and dental surgery, and for that purpose to hold examinations. I have considered the matter very carefully and I have come to the conclusion that this is a Bill which ought not to proceed as a private Bill, but must proceed as a public Bill as it deals with public interests.

The order for the second reading was discharged and the Bill was withdrawn.

The Investigation of Tropical Diseases.

In considering in Committee of Supply a supplementary estimate of £57,000 for sundry colonial services, the discussion turned on a sum of £1000 for the purposes of pathological research.

Sir WILLIAM COLLINS said that this modest sum of £1000 was to be devoted to scientific research as to the nature of certain tropical diseases and was a new departure, which he hoped would be supported on all sides of the House. He should, however, like to ask the Home Secretary, who, he understood, was taking charge of the vote that afternoon, a question as to the object to which this sum was to be devoted, and also as to the manner in which it was proposed to spend it. Probably honourable Members who took an interest in this question were aware that largely owing to the Tropical Schools of Medicine at Liverpool and Greenwich great advances had been made in recent years in discovering the causes of such diseases as sleeping sickness, yellow fever, and malaria. He hoped that in any further investigation that might be made under the authority of the Colonial Office due regard might be had to some previous investigations made by the Royal Society and also by the Portuguese Government, because he thought that if regard was had to some of the previous reports certain pitfalls might be avoided in further researches. He should like to know whether it was proposed to include in this investigation not only the question of diseases of men but also that of the diseases of animals—diseases prevalent both on the East and on the West Coast of Africa. There was, for instance, a disease supposed to be communicated by wild animals to domestic animals. This particular parasite was supposed to be communicated by some species of fly. It was not manifest itself in the case of the wild animal, and it had no disease-producing effect until it was communicated to the domestic animal by some sort of fly. He therefore would like to know whether the diseases of animals, as well as those of men, were to be included in the scope of this investigation. There was also the question of the African horse fever to which Professor Koch had devoted great attention. Costly investigations had already been instituted into the pathology of African horse fever, but he believed that up to the present those investigations had proved largely unsatisfactory. The system of inoculation against that disease had practically turned out to be useless, and some other methods of prevention were now under consideration. He should like further to ask the right honourable gentleman as to the mode in which the grant would be expended. Was it purposed to utilise the Royal Society for the purpose? Would one of the universities be asked to administer the grant—the University of Liverpool or that of London, both of which were well qualified to send out persons skilful in the investigation of tropical disease, or was it proposed to deal with the matter through the Colonial Office? If so, he trusted that the right honourable gentleman would see that those who were put on the task were not exclusively bacteriologists, but were able to take philosophic views on the natural history of the disease. He hoped that it was not proposed to send out investigators to make merely laboratory experiments. Let them have men with wide philosophic views. He was not taking up a critical attitude with regard to this vote. He was simply asking for further information. He entirely approved of the action of the Colonial Office in initiating this new form of expenditure.

Mr. REES expressed complete concurrence with what the honourable Member for West St. Pancras had said as to the manner in which the grant should be expended.

Mr. J. A. GRANT spoke on the question of sleeping sickness in Central Africa. He thought that he was right in saying that although medical science had discovered what brought about the disease it had not discovered the cure. All that it had been able to do so far had been to remove the native from the infected area. He wished to urge on the Government that no money should be spared in dealing with this appalling scourge which affected the population of Central Africa. He should like to know whether there were signs of the disease spreading down the valley of the Nile or in the Protectorate of Nyassaland. He should like also to ask the Government whether they were acting in coöperation with the Governments of the neighbouring States, with the Egyptian Government and with the German East African officials, as well as with those of the Congo State. He was sure if the right honourable gentleman could tell them that that was being done the information would be most acceptable to the House.

Mr. CHURCHILL said: I share to the full the feeling of the honourable Member who has just addressed the House as to the immense importance of dealing with sleeping sickness by every means in our power and by concerted action with other Powers. Anything more tragic or melancholy than the ravages of this disease amongst the populations of Uganda it is hardly possible to imagine. As the honourable gentleman probably knows, the late Governor of Uganda, Mr. Hesketh Bell, took very effective measures on a gigantic scale to try to check the disease in Uganda itself. As soon as it was discovered that it was spread by the mosquito carrying it from one infected person to another it was possible to adopt some policy against the disease. In order that the disease should really have full play, it is necessary you should have not only the fly from one infected person to another but also the environment suitable to the fly which is to be found in the bushes hanging over the water. If we were able to break any of these conditions the fell charm ceases to work. I have personal experience of that. What has been done throughout Uganda by a tremendous act of administration has been to cut down all the bushes and grass wherever it is necessary to go to the lake, and where that is not possible the population has been moved bodily back to some distance from the lake. We believe that will have a decided effect in stopping the ravages of the disease. But it will do no good to the people at present dying from the disease. The disease is curable in certain circumstances where certain special efforts are used and where certain advantages are at the disposal of the surgeon; but for the great mass of the infected population, numbering many thousands, I am afraid that only a slow and painful death can be the outcome. The statistics of mortality have not undergone any marked decline, and they will not do so for a short time because we are still passing through the period when those who were infected years ago have still to succumb to the disease. Infected people are, however, being isolated and measures are being taken to separate the population from the area of the infecting fly. That is only one instance of exertions which are being made to deal with this scourge. I cannot speak with anything like precisely full information of the affairs of the Colonial Office, but I certainly have every reason to believe that concerted action with other protectorates liable to the ravages of this disease is being taken, and that they are being fully apprised of the best methods of combating the flies and of dealing with the persons already infected. This is, of course, a matter of the highest consequence to the Governments which we have scattered about Africa and also to the German Protectorates and to the Portuguese and Congo States. The committee over which Lord Cromer is presiding and on which will be found the greatest practical authorities in regard to tropical diseases, is only another instance of the extension of the policy which His Majesty's Government is pursuing in dealing with these diseases. I cannot speak, of course, with the authority of the honourable gentleman the Member for West St. Pancras (Sir W. Collins), but I understand that the committee is entirely independent of the two Schools of Tropical Medicine, both of which schools receive contributions from the Colonial Office vote, in return for which they do good work. This is purely a committee of research. A vote of £1000 per annum is proposed to be given to it and later on there will come another £1000 from some of the African colonies. The committee will send two very skilled investigators, one to the East Coast and the other to the West Coast, to advise and report on any special points on which it may desire information. The inquiry covers the whole region of the diseases which are conveyed by insects, not only those which affect man but those which affect animals and plants. I am quite sure that all the Members of the House, wherever they sit, who take an interest in the scientific treatment of tropical diseases, will appreciate that in developing more highly the power of research, which is now possessed by the Colonial Office, and that by calling this new committee into being we take an important step forward—far more than the comparatively small sum of money which is involved would indicate—an important step forward which may conceivably be of priceless advantage, not only to our own fellow-countrymen who are serving beyond the seas, but to the great mass of the aboriginal population committed to their charge.

Mr. GEORGE GREENWOOD asked the Home Secretary whether any of the money in the vote was to be devoted to vivisectional experiments. He asked that question because a certain series of these experiments had been carried out which involved an enormous amount of suffering on dogs and other animals.

Mr. TOMKINSON, speaking as a member of the Royal Commission on Vivisection, said that the experiments in question had been carried out not in England but in a laboratory in Khartoum. With regard to the interesting experiments on the subject of the extirpation of insects which carried, or were supposed to carry, infection from one animal to another or from one person to another, the Commission had some interesting evidence brought before it of an experiment which was made by a certain number of people headed by a medical man, who went into an infected district in the marshes. They divided themselves into two bodies, one being clothed in such a way that the insects could not penetrate to them and the other not being protected. The result was that several of those who were not protected were attacked by insects, and one of them, a medical man, actually died, and certainly it was extremely interesting to hear that by the removal of brush vegetation and more particularly by the drainage of the country that source of infection could be very largely decreased, and the expenditure of this money would be very well laid out.

Mr. CHURCHILL said: I will just answer the question which has been put to me in two or three sentences. I do not apprehend myself that it is intended to put this money to the purpose which my honourable friend, the Member for Peterborough, fears. The methods of research of the committee will probably be more of a theoretic nature than in the nature of experiments of the kind which he dislikes so much. I cannot possibly make any pledge on this subject which should keep the committee off from any line of inquiry which its members may think it advisable to have, but if they were to embark on any such experiments then the matter would come back to me in my capacity as Home Secretary in watching over the working of the Vivisection Act, and I should certainly be guided by a desire to minimise as far as possible the sufferings of dumb animals, while at the same time making sure that the advance of science was not impeded.

Dr. ADDISON remarked that he was very pleased that the right honourable gentleman had assured the House that, whilst deprecating any needless cruelties, the hands of this committee would not be in any way tied. It was known that sometimes experiments could be carried on for a long time without apparently any hope of success, and yet eventually years of patient and to all appearance hopeless effort might be rewarded by great success. The striking thing to him (Dr. Addison) about the vote was its smallness. He thought the experience of the Americans in their endeavour to construct the Panama Canal showed very well how research in tropical diseases did enrich an empire. The right honourable gentleman pointed out that an officer would be sent to East Africa and another to West Africa, and he should only like to express the hope that the results of their labours would be such that the Government would be encouraged to send out not one but 20 to each of our dominions in the neighbourhood of the Congo. Then it would, he thought, be found that the richest of these regions would be more available for the merchants and traders of this country. One aspect of this work might receive more extended consideration, and that was the coördination of the various efforts which were being made in different parts of the world in researches of this kind. Workers and governments suffered very much sometimes from not knowing what other people were doing, and he thought that £1000, or £10,000 for that matter, might be spent in collecting and coördinating the information derived from workers in all parts of the world. Finally, he would express the hope that the committee would not interpret the word "entomological" in the strict sense. In some diseases workers

set out with the idea that the work was entomological in its character. He hoped that the committee would interpret the word broadly. He cordially supported this vote and hoped that next year it would be ten times as large.

Mr. REES, speaking again in support of the vote, observed that he had reason to believe that there had actually been one case of sleeping sickness in Nyassaland.

The vote was agreed to.

MONDAY, MARCH 7TH.

The Lunacy Act, 1890.

Mr. PICKERSGILL asked the Secretary of State for the Home Department whether he had now inquired into the circumstances disclosed in the action of Fowler *v.* Grant, tried at the Manchester Assizes a fortnight ago, in which it appeared that a person now admitted to have been perfectly sane was committed to a lunatic asylum, and there treated as a lunatic for upwards of a year, and especially to the observations of Mr. Justice Walton that a man or woman, not a pauper, might be taken to the workhouse, shut up in an imbecile ward, and then declared to be a lunatic and placed in a lunatic asylum, without any public inquiry, any hearing before a magistrate, or any notice of what was going on; and whether he would consider the advisability of making inquiry, by means of a Select Committee or otherwise, into the working of the Lunacy Act, 1890.—Mr. MASTERMAN (on behalf of Mr. CHURCHILL) replied: The Secretary of State has seen reports of the case and has made inquiry. He is advised by the Commissioners in Lunacy that the procedure in connexion with the plaintiff's removal to an asylum was regular throughout. The action was settled by an agreement between the private parties, on which he can express no opinion, but he may say that he agrees with the Commissioners in Lunacy that when there is opportunity for legislation Section 13 of the Lunacy Act, 1890, should be amended so that a patient admitted under that section should have the same right to see a justice after admission as is conferred upon a private patient under Section 8.

Mr. PICKERSGILL asked in how many cases had the Lord Chancellor empowered the chairman of the board of guardians of a union (in lieu of a justice of the peace) to sign orders for the reception of persons as pauper lunatics in institutions for lunatics, in pursuance of Section 25 of the Lunacy Act, 1891; what were the names of the unions in which this had been done; and in how many cases had such an application been made to the Lord Chancellor and refused.—Mr. MASTERMAN replied: The Secretary of State is in communication with the Lord Chancellor on this subject.

TUESDAY, MARCH 8TH.

Invaliding in the Army for Tuberculosis.

In Committee of Supply on Army Estimates,

Mr. G. H. ROBERTS raised the question of men invalided from the army for tuberculosis. He said that a Committee had been set up to consider this subject, and he would like to know whether any progress had been made in regard to it. If so, was it possible to give the House any indication whether steps had been taken to carry out the recommendations of the Committee? The Committee held that the present system could not be preserved. At present men found to be suffering from tuberculosis were discharged from the army. That was not only harsh and unjust, but it was also inimical to the public health, when the soldiers had to return to their homes. One suggestion considered by the Committee was that the War Office should establish sanatoriums. The objection to that scheme was that it would be costly and the men's relatives would be unable to visit them. Another suggestion was that the War Office should enter into bargains with civil sanatoriums to treat soldiers discharged as suffering from tuberculosis. Money spent on such a plan would be well spent. It was estimated that the total cost of dealing with the whole of the men who were discharged from the Army on this account need not exceed £20,000.

No official reply had been given when the debate was adjourned.

WEDNESDAY, MARCH 9TH.

The Disinfection of Schools.

Mr. RAMSAY MACDONALD asked the President of the Board of Education whether the practice adopted in Scotland, and set out in the memorandum entitled the cleansing and disinfecting of schools, was enforced in England; and, if not, if he would explain why such precautions should not be observed.—Mr. RUNCIMAN replied; The Code of Regulations for Public Elementary Schools requires that the school premises must be healthy and must be adequately lighted, warmed, ventilated, cleaned, and drained. The Board of Education have not up till now put forward any specific recommendations as to methods of cleansing or disinfection. They are confident, however, that adequate precautions will be observed in this respect if the local education authorities act in coöperation with the local sanitary authorities.

BOOKS, ETC., RECEIVED.

CABLE PRINTING AND PUBLISHING CO., LIMITED, London.

"Garden Life" Year Book and Who's Who in Horticulture. Price 1*s.* net.

CASSELL AND COMPANY, LIMITED (for LETTS'S DIARIES COMPANY, LIMITED), London, New York, Toronto, and Melbourne.

Letts's Nurses' Report Book and Diary for 1910. Price 2*s.* net.

CHURCHILL, J. AND A., London.

A Textbook of Nervous Diseases. By William Aldren Turner, M.D. Edin., F.R.C.P. Lond., and Thomas Grainger Stewart, M.D. Edin., M.R.C.P. Lond. Price 18*s.* net.

Guy's Hospital Reports. Edited by F. J. Steward, M.S., and Herbert French, M.D. Vol. LXIII., being Vol. XLVIII. of the Third Series. Price not stated.

The Practice of Surgery. By Walter George Spencer, M.S., M.B. Lond., F.R.C.S. Eng., and George Ernest Gask, F.R.C.S. Eng. Price 22*s.* net.

A Code of Rules for the Prevention of Infectious and Contagious Diseases in Schools. Issued by the Medical Officers of Schools Association. Sixth edition. Price 1*s.* net.

The Malarial Fevers, Hæmoglobinuric Fever and the Blood Protozoa of Man. By Charles F. Craig, M.D., Captain, Medical Corps, U.S. Army. Price 20*s.* net.

COLLINGRIDGE, W. H. AND L., London.

Mushrooms and their Cultivation. By T. W. Sanders, F.L.S. Price 1*s.* net.

CONSTABLE AND CO., LIMITED, London. (HOUGHTON MIFFLIN COMPANY, Boston and New York.)

Preventable Diseases. By Woods Hutchinson, A.M., M.D. Price 6*s.* net.

DAVIDSON, F., AND CO., London.

Electrical Treatment for General Practice. By F. Stewart Povah and F. Davidson. Price not stated.

FISCHER, GUSTAV, Jena.

Die Hämatologische Technik. Von Dr. Herm. Schridde und Dr. Otto Naegeli. Price, paper, M. 3.60; bound, M. 4.50.

Die Erkrankungen des Blinddarmanhanges (Processus Vermiformis). Von. Prof. Dr. med. Carl Winkler. (Aus dem Königlich Pathologischen Institut zu Breslau. -Direktor Geh. Med.-Rat. Prof. Dr. Ponfick.) Price M.18.

FROWDE, HENRY, London. (For THE BRITISH ACADEMY.)

The British Academy. The Interpretation of Evolution. By W. R. Sorley, Fellow of the Academy. (From the Proceedings of the British Academy, Vol. IV.) Price 1*s.* 6*d.* net.

FROWDE, HENRY, London.

The Hospital Service Book. Containing Short Services and Hymns for Use in the Wards of Hospitals and Infirmaries. Revised and enlarged. By Charles Parkhurst Baxter, M.A. Nineteenth thousand. Dedicated, by permission, to the Lord Bishop of London. Price 1*s.* net.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

Oxford Medical Publications. Emergencies of General Practice. By Percy Sargent, M.B., B.C. Cantab., F.R.C.S., and Alfred E. Russell, M.D., B.S. Lond., F.R.C.P. Price 15*s.* net.

HIRSCHWALD, AUGUST, Berlin.

Veröffentlichungen aus dem Gebiete des Militär-Sanitätswesens. Herausgegeben von der Medizinal-Abteilung des Königlich Preussischen Kriegsministeriums. Heft 42. Die altrömischen Militärärzte. Von Dr. Haberling. Price M.2.80.

KARGER, S., Berlin.

Jahrbuch für Kinderheilkunde und physische Erziehung. Unter Redaktion von O. Heubner und Th. Escherich. 71, der dritten Folge 21. Band. Heft 2. Ausgegeben am 1 Februar, 1910. Price not stated.

KEGAN PAUL, TRENCH, TRÜBNER AND CO., LIMITED, London.

Colour-Blindness and Colour-Perception. By F. W. Edridge-Green, M.D., F.R.C.S. Second edition. Price 5*s.*

KIMPTON, HENRY, London.

Kimpton's Essential Series. Essentials of Medical Electricity and Radiography. By Edward Reginald Morton, M.D., C.M. (Trin. Tor.), F.R.C.S. Edin. Second edition. Revised and enlarged. Price 6*s.* net.

KING, P. S., AND SON, London.

London Pride and London Shame. By L. Cope Cornford. Price 6*s.* net.

KLINKHARDT, DR. WERNER, VERLAG VON, Leipzig.

Das Altern, seine Ursachen und seine Behandlung durch hygienische und therapeutische Massnahmen. Ein Handbuch für eine rationelle Lebensweise. Von Dr. A. Lorand, Badearzt in Karlsbad. Zweite, erweiterte Auflage. Price, paper, M.5; bound, M.6.

LAURIE, T. WERNER, London.

A Winter's Comedy. By Halliwell Sutcliffe. Price 6*s.*

LAYTON, CHARLES AND EDWIN, London.

An Elementary Lecture on the Theory of Life Assurance. Delivered at a Meeting of the Birmingham Insurance Institute, 11th January, 1889. By W. J. H. Whittall, F.I.A., F.A.S. Second edition, revised. Price 2*s.* net.

LEWIS, H. K., London.

Surgery of the Brain and Spinal Cord. Based on Personal Experiences. By Prof. Fedor Krause, M.D., Geh. Medizinalrat. Translated by Prof. Herman A. Haubold, M.D. Vol. I., Price 25*s.* net.

Atlas of External Diseases of the Eye for Physicians and Students. By Dr. Richard Greeff. Only authorised English Translation. By P. W. Shedd, M.D. Price 42*s.* net.

LIBRERIA GENERAL DE VICTORIANO SUÁREZ, Madrid.

Fisiología Patalógica de la Digestión. Por Juan Madinaveitia. Precio: 6 ptas. en Madrid y 6.50 provincias.

LIPPINCOTT (J. B.) COMPANY, Philadelphia and London.

International Clinics. Edited by W. T. Longcope, M.D., Philadelphia, U.S.A., with Collaboration. Vol. IV. Nineteenth Series, 1909. Price not stated.

LIVINGSTONE, E. AND S., Edinburgh.

The Nurses' Guide to Prescription Reading. By J. G. H. Price 1*s.* 6*d.* net.

LONGMANS, GREEN AND CO., London, New York, Bombay, and Calcutta.

English Poor Law Policy. By Sidney and Beatrice Webb. Price 7*s.* 6*d.* net.

Rhinology. A Text-book of Diseases of the Nose and the Nasal Accessory Sinuses. By Patrick Watson Williams, M.D. Lond. Price 15*s.* net; without stereoscope, 12*s.* 6*d.* net.

Cleanliness *versus* Corruption. By Lord Ronald Sutherland-Gower. Price 6*d.*

MACMILLAN COMPANY, THE, New York.

Bacteriology for Nurses. By Isabel McIsaac. Price 5*s.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ARCHER, T. C. R., M.R.C.S., L.R.C.P. Lond., has been appointed Senior Ophthalmic House Surgeon at St. Thomas's Hospital.

BUTLER, T. HARRISON, M.D., B.Ch. Oxon., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Ophthalmic Surgeon to the Warneford, Leamington, and South Warwickshire Hospital.

CHILD, W. N., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant in the Skin Department at St. Thomas's Hospital.

CHOWN, FRANCIS, M.B. Lond., L.S.A., D.P.H. Lond., has been appointed Medical Officer of Health for the Helston (Cornwall) Rural District Council.

COLLINS, R. E., M.B., Ch.B. Edin., has been appointed First Assistant Medical Officer to the Marylebone Board of Guardians.

CORBETT, W. VICTOR, M.R.C.S., L.R.C.P. Lond., has been appointed Junior Ophthalmic House Surgeon at St. Thomas's Hospital, and also Clinical Assistant in the Mental Department.

DEAN, GEORGE, M.B., C.M. Aberd., has been appointed Examiner in Pathology and Medical Jurisprudence in Queen's University, Belfast.

HEPBURN, MALCOLM L., M.D., B.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Royal London Ophthalmic (Moorfields) Hospital.

HOWARTH, W. G., M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed Senior Clinical Assistant in the Throat Department and in the Ear Department at St. Thomas's Hospital.

MCCARTAN, M. J., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Rostrevor District of the county of Down.

MCCONNELL, ADAMS A., M.B., B.Ch., B.A.O. Dub., has been appointed Assistant Surgeon to the Richmond Hospital, Dublin.

MEARS, J. B., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Leuchars District of the county of Fife.

NEWCOMB, C., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant in the Children's Medical Department at St. Thomas's Hospital.

PINK, W. L., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant in the Throat Department and in the Ear Department at St. Thomas's Hospital.

ROUTH, L. M., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant in the Children's Medical Department at St. Thomas's Hospital.

SKENE, T. A., M.D., C.M. Aberd., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Nigg District of the county of Kincardine.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, washing, and lodging.

BATH, ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with lodging, board, and washing.

BATH, ROYAL UNITED HOSPITAL.—House Physician. Salary £80 per annum, with board, lodging, and washing.

BIRMINGHAM, QUEEN'S HOSPITAL.—House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board, apartments, and laundry.

BRISTOL GENERAL HOSPITAL.—House Physician, Casualty House Surgeon, and Assistant House Physician for six months. Salary £60, board, residence, &c.

CANCER HOSPITAL, Fulham-road, London, S.W.—House Surgeon for six months. Salary £70 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence.

CHELTENHAM GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £70 per annum, with board and lodging.

DENBIGH, DENBIGHSHIRE INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £60 per annum, with board, apartments, and laundry.

DUBLIN, ROYAL VICTORIA EYE AND EAR HOSPITAL, Adelaide-road.—House Surgeon. Salary £40 per annum, with board and residence.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—Clinical Assistants.

FARNINGHAM AND SWANLEY, KENT, HOMES FOR LITTLE BOYS.—Medical Officer, unmarried. Salary £100 per annum, with board, residence, and laundry.

HULL, ROYAL INFIRMARY.—House Physician, unmarried. Salary £100 per annum, with board and apartments.

HUNTINGDON COUNTY HOSPITAL.—House Surgeon. Salary at rate of £80 per annum and all found.

LEAMINGTON, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—Honorary Physician. Also Junior Resident Medical Officer. Salary £65 per annum, with board, washing, and apartments.

LEEDS GENERAL INFIRMARY.—Assistant Clinical Pathologist. Salary £150 per annum.

LIVERPOOL, ROYAL SOUTHERN HOSPITAL.—Honorary Surgeon.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter-street, Brunswick-square, W.C.—Lecturer in Gynæcology (female).

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board and residence.

MANCHESTER ROYAL INFIRMARY.—House Physician, unmarried, for six months. Board and residence provided.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician, House Surgeon, Assistant House Physician, and Assistant House Surgeon, all for six months. Salary of two former at rate of £40 per annum and of two latter at rate of £20 per annum. Also Resident Anæsthetist. Salary at rate of £80 per annum.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—House Surgeon. Salary £100 per annum, with residence, board, and washing.

MIDDLESEX HOSPITAL, W.—Medical Registrar.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Clinical Assistants for six months.

NORWICH, JENNY LIND INFIRMARY FOR CHILDREN, Unthank-road.—Resident Medical Officer (female). Salary £50 per annum, with board, apartments, and laundry.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, with apartments, attendance, &c.

NOTTINGHAM GENERAL HOSPITAL.—Honorary Physician.

POOLE, CORNELIA HOSPITAL.—Honorary Anæsthetist.

POPLAR, PARISH OF.—Medical Officer. Salary £130 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Clinical Assistant.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Assistant Resident Medical Officer. Salary £75 per annum, with board, residence, and washing. Also Pathologist and Registrar. Salary £200 per annum. Also House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and washing. Also Surgeon in Charge of Out-patient Department for the Ear, Nose, and Throat.

REETH UNION AND RURAL DISTRICT COUNCIL, Yorkshire.—Medical Officer and Medical Officer of Health. Salary £95 per annum.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £80 per annum, with board, lodgings, and washing.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician for six months. Salary at rate of £60 per annum, with board, lodging, and washing.

ROYAL INSTITUTE OF PUBLIC HEALTH.—Harben Demonstrator of Bacteriology and Comparative Pathology. Salary £250 per annum. Also Junior Demonstrator of Bacteriology and Comparative Pathology. Salary £100 per annum.

ROYAL NAVAL MEDICAL SERVICE.—Examination for Fifteen Commissions.

SALFORD UNION INFIRMARY, Hope, Pendleton.—Two Resident Medical Officers. Salary £120 per annum, with apartments, attendance, and rations.

SEAMEN'S HOSPITAL SOCIETY, DREADNOUGHT HOSPITAL, Greenwich, S.E.—Two House Physicians and Two House Surgeons for six months. Salary in each case £50 per annum, with board, residence, and washing.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £50 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL INFIRMARY.—Seventh Resident Medical Officer. Salary £60 per annum, with board and residence.

SHEFFIELD UNIVERSITY.—Demonstrator in Anatomy. Salary £150 per annum.

SHREWSBURY, SALOP INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, washing, and residence. Also House Physician. Salary at rate of £70 per annum, with board and apartments.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House Surgeon. Salary £82 per annum, with board, residence, and laundry.

TORQUAY, TORBAY HOSPITAL.—House Surgeon. Salary £100 per annum, with residence and board.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging.

WALSALL AND DISTRICT HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with board, residence, &c.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Montrose, in the county of Forfar; at Lichfield, in the county of Stafford; at Markfield, in the county of Leicester; at Snaith, in the county of York; at Burntisland, in the county of Fife; and at Whaley Bridge, in the county of Chester.

Births, Marriages, and Deaths.

BIRTHS.

CUMMINS.—On March 4th, at The Croft, Putney Common, the wife of Major S. Lyle Cummins, R.A.M.C., of a son.

JAMISON.—On March 5th, at The Chantry, Horsham, the wife of Reginald Jamison, F.R.C.S., of a son.

SMITH.—On Feb. 28th, at Manor-gardens, Clapham, the wife of T. W. Smith, M.R.C.S., L.D.S., &c. (née Flower), of a daughter.

DEATHS.

COLLINSON.—On March 8th, at 32, Winckley-square, Preston, Lancs, Clara, wife of F. W. Collinson, M.D. Edin., M.R.C.P. Lond., F.R.C.S. Edin.

EYRE.—On Sunday, March 6th, Leslie Graeme, aged three months, the youngest son of Dr. and Mrs. John Eyre.

FISH.—On March 7th, at Denver, Mill-road, West Worthing, Cecil Edgar Fish, B.A., M.B., B.C. Camb., M.R.C.S., L.R.C.P. Lond., of the Vale of Clwyd Sanatorium, Llanbedr Hall, Ruthin, North Wales.

WRIGHT.—On Feb. 28th, at Markfield, Alfred John Wright, M.R.C.S., L.S.A., aged 47 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PREPARATION OF BODIES FOR POST-MORTEM EXAMINATIONS IN PUBLIC MORTUARIES.

AT last week's meeting of the Finsbury borough council a discussion arose with reference to the duties of the keepers of the local mortuaries. The public health committee reported that its attention having been drawn to the fact that the practice of the keepers of the mortuaries in assisting medical men at post-mortem examinations entailed work which is in excess of their duties as laid down by the council, it was resolved that a copy of the regulations adopted by the council in July, 1904, for observance by the mortuary keepers in the discharge of their duties be permanently displayed in each mortuary, and that the keepers be required to adhere strictly to such regulations, it being specially pointed out to them that their duties in the post-mortem room do not extend to the opening of bodies for examination. Councillor Dr. W. A. Dingle protested against the action of the committee, and moved that the matter be referred back for reconsideration. Alderman Miller seconded. Councillor Phillips remarked that if medical men wished to have the work of opening the bodies done for them they must employ suitable men, and not have the services of the council's servants. Councillor Owen Richards, chairman of the committee, said he could assure the council that the committee was fully justified in the action it took, being based on the frank confession of the mortuary keeper. It was no part of the keeper's duty to prepare bodies for examination. Councillor Dingle maintained that it was the proper thing for the keeper to open the body and prepare it for the medical man, who should be there at the time. It was also the duty of the keeper to sew the body up after the examination and make it decent. It was understood throughout the medical world that there must be a man on the spot to do this work. Councillor Richards said the keeper admitted to the committee that he did a very great deal towards the preparation of the body without the medical man being present. Councillor Dingle's amendment was lost, and the action of the committee was approved by the majority of the meeting.

AN EXEMPLARY SENTENCE ON A PURVEYOR OF DISEASED MEAT.

AFTER several adjournments a Leicester cattle-dealer named Arthur Cart was recently convicted and fined £100 with £25 costs at the Clerkenwell police court, upon a summons relating to the depositing for sale of four sides of veal which were found to be tuberculous and unfit for human food. Another summons against a defendant named Watson in respect of the same meat was withdrawn. The serious nature of the offence lay not merely in the fact that the meat was diseased and had been dressed to conceal its defects, but rather in the course apparently adopted by an ingenious defendant in order to baffle investigation and in the nature of the defence, which consisted in an elaborate attempt to prove that the meat had in fact been consigned by a man named Morris, who used the name of Jennings in trading in meat with Cart under an arrangement between them. Witnesses were called who deposed to knowing Morris, who was not Cart, but who placed on a field belonging to Cart animals of whose carcasses, it was suggested, the veal in question formed part. A bank clerk from Brighton also related that he knew Morris, who was not Cart. Cart was not, however, able to produce Morris or Jennings, and the prosecution claimed to have traced the meat to the other defendant, Watson, who consigned it in the name of "Jennings" from a shop with no name shown outside it. Further, the prosecution showed that cheques made out to "T. Jennings" had been passed through Cart's banking account, that the address used by "Jennings" was identical with that of Cart's brother, and that the shop where Watson was seen was in the occupation of Cart himself. Watson was stated to have admitted selling meat for a man whom he called Jennings, and a London salesman had been introduced by Cart's brother to a "Mr. Jennings." The magistrate (Mr. Bros) was satisfied that Cart was, in fact, the beneficial owner of the veal and that he had acted as such, and in convicting and in imposing the severe penalty mentioned he referred to the obstacles placed in the way of the court in ascertaining the true facts. On behalf of Watson it was said that he had accepted a small commission for sending off the meat for the supposed Jennings, and that he had only seen it when packed.

THE PREPARATION OF "BEESWAX AND TURPENTINE."

AT a recent inquest at Westminster it was proved that the deceased, a cook in domestic service, had died from severe burns sustained in the kitchen of her master's house in Bramham-gardens. At the suggestion of the parlourmaid, the housemaid had taken some beeswax and turpentine to the kitchen in order that the former might be more rapidly dissolved in the latter through their being heated. The housemaid was about to place the vessel containing the two on the kitchen range, but the deceased caused her to set it upon the gas stove instead. A few minutes later, after the housemaid had left the kitchen, screams were heard and the master of the house and his daughter rushing to the kitchen were only in time to do their best to save their servant from immediate death by beating out the flames which enveloped her. Precisely how the accident occurred was not to be ascertained, but it ended fatally, the poor woman dying in St. George's Hospital three days later, her explanation being, "I tried to save the house; I did my best." As such accidents have occurred before, and as they may be occasioned by an idea on the part of maids or their mistresses that heat is necessary in order to make the mixture known as "beeswax and turpentine," we take the opportunity to observe that this is not the case. Beeswax can be dissolved in turpentine by cutting it up and by letting it stand in the liquid without any heating. Of course, in the absence of warmth the process takes longer, perhaps by 24 hours or even more, according to how thoroughly the cutting-up process is performed, but at any rate it is absolutely unnecessary to risk a conflagration, with possible loss of life, by so appallingly risky a transaction as placing a vessel of whatever construction upon a kitchen range or gas stove. It is a curious fact that although beeswax and turpentine are employed constantly for floors and furniture no simple and inexpensive combination of them for such a purpose is habitually kept for sale by oilmen. There are more elaborate compositions, liquid and otherwise, on the market, which are possibly more profitable to deal in, but they are better suited for application to articles of furniture and ornamental woodwork than for a parquet floor.

WANTED, A HOME.

To the Editor of THE LANCET.

SIR,—Can any of your readers tell me of a home where I can send a case of fractured vertebra in a female to receive daily massage. The patient's circumstances are very poor, but if she could have continuous treatment she would perhaps become a useful member of society. Her age is 20. I am, Sir, yours faithfully,

ARTHUR B. ROGERS.

The Red House, Cliffe-at-Hoo, Kent, March 7th, 1910.

IMPROVED MERCURIAL INJECTIONS.

M. Desmoulières and M. Lafay, in a recent number of *L'Union Pharmaceutique*, have suggested a number of improved formulæ for the preparation of mercurial injections. Of the soluble salts of mercury they consider the benzoate of mercury to be the least painful, when rendered hypertonic by the addition of sodium chloride. It is prepared from freshly made mercury benzoate, dissolved in sterilised distilled water to form a 1 per cent. solution, with the addition of 2·5 per cent. of sodium chloride. The solution is injected daily in doses of 30 to 45 minims. This formula was devised by Professor Gaucher, who preferred a 1 per cent. solution to any other strength on account of its stability and the ease with which it is tolerated by the patient. In order to render the injection perfectly painless, the addition of cocaine has been suggested, but this addition has many objections. It is better to introduce sufficient pure saccharose, as suggested by Fleig, to produce an isotonic solution. A very satisfactory injection may be prepared in the following way:—Dissolve recently prepared mercury benzoate 1 gramme, pure sodium chloride 1 gramme, and pure saccharose 10 grammes in sufficient sterilised distilled water to produce 100 cubic centimetres of solution. It is important to avoid reducing the mercuric salt during the process of sterilisation, and on this account it is preferable to filter the solution through a porous cylinder rather than use an autoclave. The same formula is advantageously used in the preparation of injections of biniodide of mercury, which usually cause the patient considerable pain. Such a solution is best prepared by dissolving recently made mercuric iodide 1 gramme, pure dry sodium iodide 1 gramme, and pure saccharose 10 grammes, in sufficient sterilised distilled water to produce 100 cubic centimetres of solution. Injections made in this way are less painful than those prepared with the addition of cocaine.

THE INTER-HOSPITAL RUGBY CUP-TIES.

Semi-Final Round.

St. Bartholomew's Hospital v. *London Hospital.*

THIS semi-final was very nearly a great game. It was all wonderfully hard and fast and keen. It was, too, a battle of styles. Bart's came to the game with faith in her forwards, in the hard tackle, in bullocking individualism, in the virtue of vigour. These things were the creed of the side, and they are the secret of the popularity of the competition. London rely on other things. The splendid excellence of the half-backs is the pivot of the team. Heale and Lindsay are both colonials and give of their best when playing together. The Scotch international works the scrum, while Heale, who skippers the side, is quite another Cowey. Behind them is an international three-quarter line of which the halves make the most. The London pack, though strengthened by Morton, who led the English forwards in the Welsh match, was no match for the Bart's heavyweights. The

latter dominated the game. They were always in possession. In the loose they gave London no rest, and so for three-parts of the game Bart's attacked. But the method of attack was crude. The London forwards were weak, but the defence was true. The colonial contingent found few opportunities of attack, but they never refused to tackle. Once the ball came out to Heale and then we saw a fine movement developed with amazing rapidity. The ball went along the line, each man drawing an opponent until it came to Adams. It was London's only real chance in the game and the New Zealander seized it. Batchelor was over and Adams kicked a goal. That was the only score. It was a triumph of science and opportunism, and many who looked on agreed that the better side lost.

Guy's Hospital v. *St. Thomas's Hospital.*

All old players would welcome the success of St. Thomas's Hospital which was once a power in the land. Few clubs are so rich in tradition, few have done as much for the game. There are signs that the tide has turned. It is some time since Thomas's figured in the final, but there was much in this game that gave generous promise for the future. Guy's won, and deserved to win. Their forwards are very masters in the science of the scrimmage, and the backs have great experience in this competition. But it was no runaway affair. The Thomas's forwards were individually great. They broke up and tackled and dribbled in a way reminiscent of the best days of the team. But they were beaten for possession, and that is the key to attack. Friedlander for St. Thomas's was always in the picture; he went down to meet every rush, and his kicking was invaluable to his forwards. Medlock, the Guy's half, was also in great form, and was well backed up by Jones and Stringer. Friedlander, on the other hand, had to rely in attack on himself. This with the pull Guy's always had in the scrum gave them victory by 22 points to 5.

ERRATUM.—In a letter on the treatment of headache from Dr. Ernest Young in our last issue in answer to "Cambria" calcium acetate was advised. The drug should have been given as calcium lactate.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

PATHOLOGICAL SECTION (Hon. Secretaries—L. S. Dudgeon, C. Bolton): at 8.30 P.M.

Papers:

Dr. W. H. Willcox: Gastric Analysis.

Dr. F. H. Thiele: Observations on the Pathology of Pernicious Anæmia.

Dr. Parkes Weber: A Case of Bile producing Primary Carcinoma of the Liver.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—E. G. Graham Little, H. G. Adamson): at 5 P.M.

Cases:

Dr. J. H. Sequeira: (1) Keratodermie Blenorrhagique; (2) (with Dr. Graham Little) Pseudo-xanthoma Elasticum.

Dr. Graham Little: Case for Diagnosis.

And other Cases.

FRIDAY.

ELECTRO-THERAPEUTICAL SECTION (Hon. Secretaries—Reginald Morton, G. Harrison Orton): at 8.30 P.M.

Dr. Franz M. Goedel: The Normal and Pathological Stomach and the Intestines shown by X-ray Examination (with demonstrations and cinemato-Roentgenograms).

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Discussion on the Treatment of Colitis (opened by Dr. H. P. Hawkins and Mr. H. S. Collier).

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Dr. L. Guthrie: Remarks on Hydrocephalus. (Harveian Lecture.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M., Prof. W. Osler: Angina Pectoris. (Lumleian Lecture.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY AND WEDNESDAY.—5 P.M., Prof. G. Coats: Researches on Congenital Abnormalities of the Eye.

FRIDAY.—5 P.M., Mr. S. Scott: The Physiology of the Human Labyrinth.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. S. E. Dore: Clinique (Skin). 5.15 P.M., Lecture:—Dr. P. Stewart: Paralysis of Motor Cranial Nerves (with lantern illustrations).

TUESDAY.—4 P.M., Dr. F. Taylor: Clinique (Medical). 5.15 P.M., Lecture:—Sir Patrick Manson, K.C.M.G.: The Treatment of Chronic Dysentery.

WEDNESDAY.—4 P.M., Mr. R. Jackson: Clinique (Surgical). 5.15 P.M., Sir W. Watson Cheyne, Bart.: On Surgical Cases.

THURSDAY.—4 P.M., Mr. Jackson Clarke: Clinique (Surgical). 5.15 P.M., Lecture—Dr. J. L. Bunch: Itching Skin Eruptions.

FRIDAY.—4 P.M., Dr. StClair Thomson: Clinique (Ear, Throat, and Nose).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Davis: Otosclerosis; Treatment.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Moullin: Gynæcological Cases.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Medicine.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Bidwell: The Surgery of Gall Stones.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Medical Registrar: Demonstration of Cases in the Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Etherington-Smith: Clinical.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. Howell Evans), 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G Auld). 2.30 P.M., Operations. Clinics:—Surgical (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M., Lecture:—Mr. A. de Prenderville: The Relative Values of Deep, Light, and Incomplete Narcosis.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Dr. A. H. Pirie).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Dr. A. E. Giles: The Influence of Ovariotomy on Woman's Character.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. Howell Evans). 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Dr. R. Wells: Diseases of the Heart.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.30 P.M., Special Lecture:—Dr. G. Rankin: Migraine.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. G. Holmes: Hemiplegia and its Treatment.

FRIDAY.—3.30 P.M., Clinical Lecture;—Dr. G. Holmes: Hemiplegia and its Treatment.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.

TUESDAY.—5 P.M., Clinical Demonstration:—Dr. J. Mackenzie.

WEDNESDAY.—3 P.M., Clinical Demonstration:—Dr. F. Palmer.

FRIDAY.—2 P.M., Clinical Demonstration:—Dr. P. Stewart. 5.30 P.M., Clinical Demonstration: Dr. E. Macnamara.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Dr. Atkinson: Nose.

FRIDAY.—3.45 P.M., Lecture:—Dr. D. McKenzie: Labyrinth.

ST. MARK'S HOSPITAL FOR CANCER AND OTHER DISEASES OF THE RECTUM, City-road, E.C.

MONDAY.—5.30 P.M., Lecture:—Mr. P. L. Mummery: Colitis.
SATURDAY.—3.30 P.M., Mr. G. Watson: Demonstration of Cases.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—On the Treatment of Skin Diseases.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College 2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, (9 A.M., Major, 2 P.M.).

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor 9 A.M., Major, 2 P.M.).

SATURDAY (19th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1909 were given in THE LANCET of Dec. 25th, 1909.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1909 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

(The rate for the United Kingdom will apply also to Medical Subordinates in India whose rate of pay, including allowances, is less than Rs.50 per month.)

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

The Manager will be pleased to forward copies direct from the Offices to places abroad at these rates, whatever be the weight of any of the copies so supplied.

SOLE AGENTS FOR AMERICA—Messrs. WILLIAM WOOD AND CO., 51, Fifth Avenue, New York, U.S.A.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 9th, 1910.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Mar. 3	30·23	S.	...	87	54	40	40	41	Fine
,, 4	30·02	S.E.	...	78	52	39	40	41	Fine
,, 5	29·93	E.	...	92	58	41	42	43	Fine
,, 6	30·05	S.	...	84	52	43	47	51	Cloudy
,, 7	30·10	S.W.	0·03	103	58	45	47	48	Cloudy
,, 8	30·03	S.W.	...	64	56	44	48	48	Raining
,, 9	29·92	S.W.	0·01	58	53	48	49	51	Cloudy

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Alexandra Nursing Institute, Lond., Secretary of; Messrs. C. Ash, Sons, and Co., Lond.; A. M. O's; Aymard Patent Milk Sterilizer Co., Ipswich; Achter Internationaler Physiologen Kongress, Wien; Dr. W. J. Webb Anderson, Canton; "Alles-Leser," Wien.

B.—Messrs. Blundell and Rigby, Lond.; Mr. C. Birchall, Liverpool; Dr. G. W. Badgerow, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Bovril, Ltd., Lond.; Mr. H. O. Boger, Salisbury; Dr. W. N. Barlow, Egremont; Mr. H. Norman Barnett, Belfast; Mr. William C. Bentall, Lond.; Mr. E. T. Blakeney, Roscommon; Dr. C. G. S. Baronsfeather, Glenageary; Mrs. Bolton, Clanfield; Mr. W. Bernard, Buncrana; British Diamalt Co., Lond.; Sir Lauder Brunton, Bart., Lond.; British Red Cross Society, Lond.

C.—Mr. F. W. Clarke, Chorlton-cum-Hardy; Messrs. Cordes, Hermanni, and Co., Hamburg; Dr. R. N. Cairns, River Falls, U.S.A.; Mr. F. W. Cory, Leeds; Mr. John Cabburn, Lond.; Cheltenham General Hospital, Secretary of; Messrs. F. Comar and Sons, Lond.; G. W. Carnrick Co., New York; Dr. J. Campbell, Harrogate; C. F.

D.—Mr. D. Dempsey, Dublin; Messrs. W. Dawson and Sons, Lond.; Mr. S. Deacon, Lond.; Dr. V. Danulescu, Bucharest; Messrs. F. Davidson and Co., Lond.; Mr. A. Duke, Lond.; Denbighshire Infirmary, Denbigh, Secretary of; Miss Daniel, Epsom.

E.—Messrs. Eason and Son, Dublin; Epsom College, Lond., Secretary of; E. A. W. W.; Essex County Hospital, Colchester.

F.—Mr. T. Jefferson Faulder, Lond.; Miss Fox, Lond.; Messrs. Fairchild Bros. and Foster, Lond.; Mrs. Forster, Westcliff; Messrs. Foster, Brown, and Co., Montreal; Messrs. Ferris and Co., Bristol.

G.—Mr. H. J. Gauvain, Alton; Messrs. Gale and Co., Lond.; Gt. Eastern Railway Co., Lond.; Dr. Reginald Green, King's Norton; Dr. W. Gordon, Exeter.

H.—Dr. James Harper, Lond.; Mr. Somerville Hastings, Lond.; Haydock Lodge, Newton-le-Willows, Medical Superintendent of; Mr. T. H. Hewitt, Lond.; Hoffman La Roche Chemical Work Co., Lond.; Messrs. Haasenstein and Vogler, Cologne; Heigham Hall, Norwich, Medical Superintendent of.

I.—Ingham Infirmary and South Shields Dispensary, Secretary of.

J.—Mrs. Johnson, Northallerton.

K.—Messrs. R. A. Knight and Co., Lond.; Dr. A. C. Klebs, Ouchy; Messrs. C. Knight and Co., Lond.; Dr. W. Klinkhart, Leipzig; Messrs. J. Roland Kay Co., Chicago; King Edward's Hospital Fund for London, Hon. Secretaries of; Kettering and District General Hospital, Hon. Secretary of; Dr. Knight, Portobello.

L.—Mr. H. K. Lewis, Lond.; Messrs. Lee and Nightingale, Liverpool; Dr. A. P. Luff, Lond.; Messrs. W. Le Lacheur and Son, Lond.; Mr. T. Laffan, Cashel; Leeds General Infirmary, Manager of; Dr. Carl Leiner, Vienna; London School of Clinical Medicine, Dean of.

M.—Dr. J. C. McVail, Glasgow; Maltine Manufacturing Co., Lond.; Mr. J. Murray, Lond.; Male Nurses' Association, Lond., Superintendent of; Medical Sickness and Assurance Society, Lond., Secretary of; Manchester Royal Infirmary, Secretary of; Mr. J. E. R. McDonagh, Lond.; Dr. Frederick J. McCann, Lond.; Medico-Psychological Association, Lond., Hon. General Secretary of; Dr. Modlinski, Moscow; Manchester Guardians, Clerk to the; Dr. L. MacAuliffe, Paris; *Medical Magazine*, Lond., Manager of; Macclesfield General Infirmary, Secretary of; Mr. R. Mosse, Berlin.

N.—Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.; National Provident Institution, Lond., Secretary of; Nottingham General Hospital, Secretary of; Messrs. Newton, Chambers, and Co., Thorncliffe; Nottingham Medico-Chirurgical Society, Correspond-Secretary of; North Riding Infirmary, Middlesbrough, Secretary of.

O.—Oxford Medical Publications, Lond., Manager of.

P.—Messrs. Peacock and Hadley, Lond.; Mr. F. E. Potter, Lond.; Mr. J. H. Parker, St. Louis; Mr. D'Arcy Power, Lond.; Mr. Norman Porritt, Huddersfield; Public Health and Marine Hospital Service, Washington; Publishers' Association of Great Britain and Ireland, Lond., Secretary of; Messrs. W. Porteous and Co., Glasgow; Messrs. C. Pool and Co., Lond; Messrs. Parke, Davis, and Co., Lond.

R.—Dr. J. D. Rolleston, Lond.; Royal Mineral Water Hospital, Bath, Registrar of; Royal United Hospital, Bath, Secretary of; Royal Hampshire County Hospital, Winchester, Assistant Secretary of; Royal Albert Hospital, Devonport, Secretary of; Royal Buckinghamshire Hospital, Aylesbury, Secretary of; Mr. Arthur B. Rogers, Cliffe-at-Hoo; Messrs. Reitmeyer and Co., Lond.; Messrs. Rebman, Lond.; Royal Institute of Public Health, Lond., Assistant Secretary of; Rotherham Hospital, Secretary of; Royal Victoria Eye and Ear Hospital, Dublin, Registrar of; Messrs. A. Rey and Co., Lyons; Messrs. Reynolds and Branson, Leeds.

S.—Scholastic, Clerical, &c., Association, Lond.; *Sheffield Daily Telegraph*, Lond., Representative of; Mr. A. Saxlehner, Lond.; Messrs. Street and Co., Lond; Sheffield University, Registrar of; Mr. S. Stephenson, Lond.; Prof. M. Allen Starr, New York; Mr. F. L. Simons, Edinburgh; Seltzogene Patent Charges Co., St. Helens; Messrs. Stevens, Buer, and Co., Lond.; Messrs. W. H. Smith and Son, Stafford; Messrs. G. Street and Co., Lond.; *Shrewsbury Chronicle*, Manager of; Sheffield Royal Hospital, Secretary of; Society of Apothecaries of London, Clerk to the; Mr. Fred Smith, Halifax; Sheffield Medico-Chirurgical Society, Hon. Secretary of; Mr. E. H. Sweet, Uckfield; Mr. C. H. Stevens, Plympton.

T.—Sir Edward Troup, K.C.B., Lond.; Mr. A. Toms, Lond.; Torbay Hospital, Torquay, Secretary of.

U.—Mr. H. Urquhart, Lond.

V.—Messrs. Vigot Frères, Paris; Messrs. J. W. Vickers and Co., Lond.; Veterinary Medical Association of Ireland, Dublin, Hon. Secretary of.

W.—Dr. S. F. Wernich, Somerset Strand; Messrs. Willings, Lond.; Messrs. Worthington and Co., Burton-on-Trent; Messrs. R. F. White and Son, Lond.; Messrs. A. J. Wilson and Co., Lond.; Dr. P. D'Erf Wheeler, Lond.; Mr. A. St. J. Wright, Liverpool; Messrs. Widenmann, Broicher, and Co., Lond.; Messrs. W. Wood and Co., New York; W. H.; Warneford, &c., Hospital, Leamington, Secretary of.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. R. Ackrill, Harrogate; Mr. T. E. Atkins, Langla; A. T. G.; A. M. G.; Ashton-under-Lyne Union, Clerk to the.

B.—General Bond, Londonderry; Messrs. Bennett Bros., Salisbury; Mr. F. J. Breakell, Preston; Dr. S. J. McLean Bradshaw, Dalkey; Messrs. J. Broadbent and Co., Huddersfield; Mr. G. A. Brown, Tredegar.

C.—Mr. W. Crooke, New Brighton; Messrs. A. H. Cox and Co., Brighton; C. H. W.; C. W.

D.—Mr. W. T. Durning, Cramlington; Dr. L. Durno, Lond.; Dr. W. T. Dougal, Pittenweem; Mr. T. V. Devey, Muker; *Die Tabakwelt*, Dresden.

E.—Mr. E. Evans, Felinfach; Dr. J. Eyre, Lond.

F.—Hon. Edith Fitzgerald, Lond.

G.—Captain J. H. P. Graham, R.A.M.C., Wallasey.

H.—Messrs. Hough, Hoseason, and Co., Manchester; Hong-Kong and Shanghai Banking Corporation, Calcutta; Messrs. C. Hearson and Co., Lond.; Mr. J. Heywood, Manchester; Messrs. Hastings Bros., Lond.; H. S.

I.—Mr. R. E. Ingram-Johnson, Stanley; Miss Inge, Haslemere; India Rubber, Gutta Percha, and Telegraph Works Co., Lond.

J.—Mr. E. M. Judge, Chislehurst; J. H.; J. W. G.; Jeyes' Sanitary Compounds Co., Lond.; J. H. H.; Dr. S. Jackson, Lond.

K.—Miss A. D. Kerr, Tauranga; Messrs. Kutnow and Co., Lond.; Kreochyle Co., Lond.; Dr. R. L. Meade King, Taunton.

L.—Mr. D. H. Lambert, Lond.; Mr. S. Lee, Lond.; Dr. J. Lambie, Pentre.

M.—Dr. J. A. Mitchell, Inverness; Dr. J. MacKail, Southport; Mr. L. C. Martin, Hounslow; Captain J. Morison, I.M.S., Dilkusha; Mount Vernon Hospital, Lond., Secretary of; Captain J. P. Murphy, R.A.M.C., Dublin; Medicus, Kensington; M. K. A.

P.—Dr. W. P. Panckridge, Petersfield; Dr. E. Piasecki, Lemberg; Mr. A. Pemberton, Manchester.

R.—Messrs. Ross, Lond.; R. D.; Royal Victoria Infirmary, Newcastle-on-Tyne, Secretary of; Rover Co., Coventry.

S.—Dr. J. A. Stewart, Normanton; Messrs. Spiers and Pond, Lond.; Messrs. Smith and Son, Lond.; Swansea General Hospital, Secretary of; S. P.; *South Wales Argus*, Newport, Manager of; Smith's Advertising Agency, Lond.; Mr. J. L. Smith, Cardiff; Messrs. R. Sumner and Co., Liverpool; Messrs. Squire and Sons, Lond.; Sunnydene, Lee.

T.—T. R. B.

W.—Messrs. Wyleys, Coventry; Messrs. F. Williams and Co., Lond.; Worcester General Infirmary, Secretary of; "Wright," Wallington; White Hart Hotel, Margate, Manager of.

EVERY FRIDAY.

THE LANCET.

PRICE SIXPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.*		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

* *The same rate applies to Medical Subordinates in India.*

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications	Five Lines and under £0 4 0
Official and General Announcements	
Trade and Miscellaneous Advertisements and Situations Vacant ...	Every additional Line 0 0 6

Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d.
Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.
Special terms for Position Pages.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (to insure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 35, Rue Franklin, Asnières, Paris.